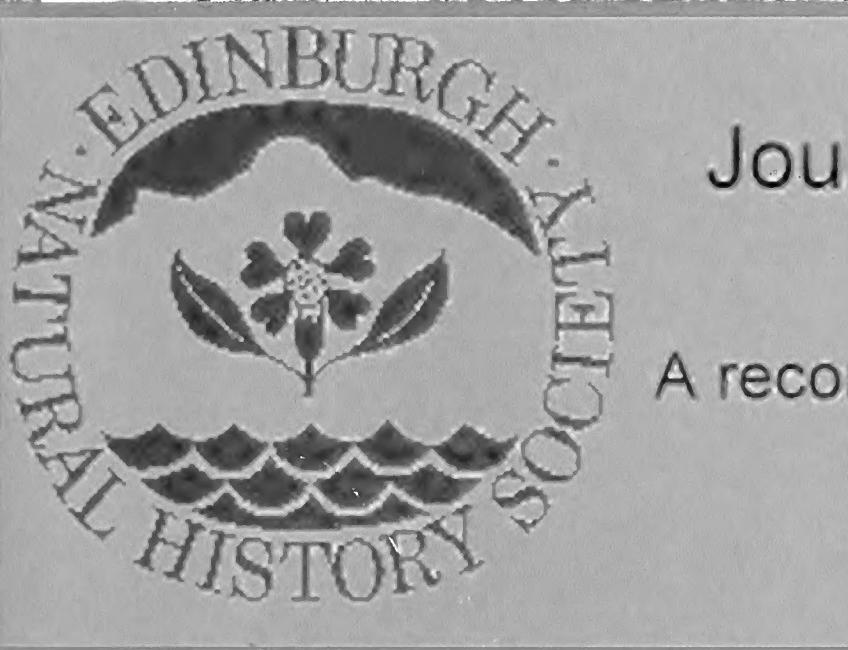


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Journal 2017

A record of activities
in 2016



Natural History Museum Library



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Edinburgh Natural History Society

Council October 2016 - 2017

Honorary President
President
Vice President
Secretary
Treasurer

Elizabeth Farquharson
Peter Leach
Wilma Harper
Noeleen Donachie
David Adamson



Ordinary Council Members

Sarah Adamson, Erica Bright, Ptolemy McKinnon, Ian Schoolar

Non-council roles within the Society

Excursion Committee

David Adamson, Lyn Blades, Neville Crowther, Wilma Harper, Jean Long

Indoor Meetings Organiser

Joanie McNaughton

Website

Malcolm Lavery and Joanie McNaughton

Facebook Admin.

Sarah Adamson, Ian Schoolar, Wilma Harper
and Pauline King

Twitter

Ptolemy McKinnon

Journal

Sarah Adamson (edinburghnats@gmail.com)

Audiovisual Support for Indoor Meetings

Peter Leach

Library and Equipment

Pauline King (paulinekhome@msn.com)

The aim of the Journal is to create a snapshot of the Edinburgh Natural History Society in 2016. Outdoor meetings are held throughout the year and indoor meetings are held monthly at 7.30pm on a Wednesday from September to April at the Guide Hall, 33 Melville Street, Edinburgh, EH3 7JF.

Meetings are publicised by programme cards and on the website edinburghnaturalhistorysociety.org.uk. All are welcome at the meetings.

Library

ENHS books and equipment are stored at The Wildlife Information Centre (TWIC) Offices, Vogrie. Contact can be made with Pauline King by email (paulinekhome@msn.com)

Thank you to members who made contributions and helped to produce Journal 2017, especially,
Jackie Muscott, Peter Leach, Jean Long and Sandra Stewart.

Drawings	Sarah Adamson Jackie Muscott
Photographs	David Adamson Paddy Adamson Sarah Adamson Kathy Buckner Patrick Chaney Neville Crowther Tom Delaney Wilma Harper Pauline King Peter Leach Ptolemy McKinnon Joanie McNaughton

Edinburgh Natural History Society
Scottish Charitable Incorporated Organisation No SC 004669
Contact: enquiries@edinburghnaturalhistorysociety.org.uk

President's piece 2017

The time for writing the 'President's Piece' for the Journal coincides with the time of year when change is in the air. While I write this, it is snowing outside, but snowdrops are blooming and the man on the wireless says it is going to be mild next week.

In 2016 we have, once again, had a wonderful programme of excursions, an entertaining and instructive series of winter talks and numerous occasions when Members have got together to share experiences and knowledge. Long may it continue.

2016 has, however, also seen some changes. A number of Council Members have stepped down or completed their term of office and I would like to extend my personal thanks and that of members to Pauline King, Jean Long, Joanie McNaughton, Sandra Stewart, Rob Wallace and Katherine White for their contributions.

I've been fortunate, over the last few weeks, to see the work of the Excursion Committee as they put together the 2017 summer programme. Tom Delaney stepped down from the Excursion Committee recently so, once again, sincere thanks are due for all of Tom's work over the last few years.

As well as departures, there have been some arrivals and we are fortunate to have Sarah Adamson and Erica Bright as new Council Members and Wilma Harper as our new Vice President.

The mathematically astute amongst you may have noticed that these numbers don't add up?

It's true. We have lost more than we have gained and, even allowing for recent changes in our constitution, we really do need a few more people to help with the various tasks which ensure the continuation of our wonderful programme of activities.

I hesitate to make a link between Nats and the American presidential election, in view of what has recently happened, but may I suggest that a theme for 2017 might be 'ask not what Nats can do for me but what I can do for the Nats': Council member, lecture secretary, journal editor, excursion leader or assistant, contributor of ideas – these are all things which the Society relies on to provide Members with the programme we expect. Please consider how you might contribute whilst you enjoy the forthcoming summer programme. I guarantee that you won't be disappointed.

Peter Leach

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Communications

The Facebook page with 255 members has become increasingly active during the year with some interesting threads developing and photographs of plants, animals and often the sky. It has been a useful way to advertise information about outings and other activities. However, there has been a marked decline in postings on the Yahoo group by its 55 members. Postings gradually increased from 200 to 300 between 2011 and 2014, with a fall to 170 during 2015 and 41 in 2016. Ptolemy has set up a Twitter account [@EdinburghNats](#) to promote the society. Over the course of 2016 greater use of email has occurred, with The President's Newsletter and short notice notifications such as extra meetings and change of excursion details.

Glossary

Some common abbreviations and acronyms have been adopted and are listed here.

British Trust for Ornithology BTO	National Trust for Scotland NTS
Bees Wasps and Ants Recording Society BWARS	Royal Botanic Gardens Edinburgh RBGE
Centre for Ecology and Hydrology CEH	Royal Society for the Protection of Birds RSPB
Edinburgh Natural History Society ENHS/Nats	Scottish Natural Heritage SNH
Forestry Commission FC	Scottish Ornithologists' Club SOC
Fungus Group of South East Scotland FGSES	Scottish Wildlife Trust SWT
Local Nature Reserve LNR	Site of Special Scientific Interest SSSI
National Biodiversity Network NBN	The Wildlife Information Centre TWIC
National Nature Reserve NNR	

Obituary

Alison Ramsay

Alison died unexpectedly just a few days after taking part in the TWIC joint meeting. She had turned up with Janet for a walk! Our leader was aware of their disappointment and spent the early part of the excursion with them. Soon they were both rummaging along the hedges and fences looking for mammalian hairs and shortly afterwards learning to distinguish badger, fox and domestic cat hairs. Our group was small but we had a cheerful time spotting plants and insects in the sunny stretches along the disused railway track.

Alison's love of the outdoors was reflected in the activities she undertook. The list of groups she belonged to included: the Nats and The Trefoil Guild, she was also a very keen country dancer.
Sarah Adamson

Observations

Otter and kingfisher		Many notable observations are made during excursions and these are recorded in the reports. Those listed below and submitted by members that look for wildlife when they are out and about. Further sightings are of a more casual nature and create points of discussion at meetings. The Water of Leith is a wildlife corridor running through Edinburgh and provides opportunities to learn about natural history. Much of the chatter is regarding kingfisher <i>Alcedo atthis</i> , goosander <i>Mergus merganser</i> and otter <i>Lutra lutra</i> , however, there are also a good number of insects and mosses.
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Month	Date	Observations	Initials
January	14	WoL – clusters of orange ladybirds encapsulated in ice	SA
February	2	EH9: show of nacreous clouds first thing in the morning	JMc
	3	Watched an otter for 20 min fishing in the WoL below the by-pass at Juniper Green. Earlier we saw 9 ravens above Bonaly	DA PM
	9	Luss: Female goosanders (4) swimming on flooded picnic area where the Luss Water had broken its banks	JMc
	20	Purple toothwort <i>Lathraea clandestina</i> by the River Tyne near E Linton very	MC JM

		exposed, as sand had been washed away by floods, but some on the other side of the path in flower	
	22	Lovely banks of winter aconite <i>Eranthis hyemalis</i> and snowdrops <i>Galanthus nivalis</i> in a river valley near West Byres	MC JM
	24	Otter in WoL by Sainsburys at Longstone	DA SA
March	5	A trip to monitor a large patch of rough horsetail/Dutch rush <i>Equisetum hyemale</i> beside the Almond revealed it had continued to spread along the river bank and inland into a damp area. It's pretty dense by the river, and the outliers are now 10-20 metres away	MC JM
	14	Redwings <i>Turdus iliacus</i> feeding on the Meadows, where they can usually be found in the spring	JM
	late	Frogspawn in Blackford Pond and frogs <i>Rana temporaria</i> on the path	JM
April	2	Musselburgh scrapes: Green sandpiper and a pair of long-tailed tits gathering nesting material	JMc
May	5	Solitary bees <i>Andrena scotica</i> at the foot of Kaimes Road, EH12, accompanied by its parasite <i>Nomada marshanella</i> . We saw the same combination on the excursions to Bowden Hill on 10 th May and the Union Canal on 1 st June	DA SA
	26	Garden EH9: Newly fledged starlings being fed by parents, at least 4 young birds	JMc
June	5	Garden EH9: fresh Peppered moth <i>Biston betularia</i> , sadly dead	JMc
	9	Garden EH9: 2-spot ladybird <i>Adalia bipunctata</i> , on lily	JMc
	16	Garden EH9: diamond-back moth <i>Plutella xylostella</i> on ivy	JMc
July	9	Morton Lochs: pair of kingfishers, mating behaviour, him feeding her with fish; and on window ledge of hide and a scorpionfly <i>Panorpa germanica</i> devouring spider prey	JMc
	14	Garden EH9: Wool-carder bee <i>Anthidium manicatum</i> visited garden regularly July and mid-August; maximum 4 bees with a pair mating, feeding on <i>Nemesia fruticans</i> . TWIC has nine records in Lothians and BWARS two Scottish sites in Dumfries & Galloway	JMc
	15	Garden EH9: From leaf gall on bay <i>Laurus nobilis</i> to adults mating, four days to complete the cycle of bay sucker <i>Lauritrioza alacris</i> . No records in Scotland on NBN or TWIC	JMc
	21	White bryony <i>Bryonia dioica</i> in flower on a fence in Inch Park	PC
	23	Blackford Pond: <i>Grypocoris stysi</i> , a yellow and black chequered bug on thistle <i>Silybum marianum</i>	JMc
	27	House leek <i>Sempervivum tectorum</i> found on rock along the high road above Duddingston Loch	PC
August	9	Common evening primrose <i>Oenothera biennis</i> growing on the site of demolished housing estate in Greendykes	PC
	21	At Kinneil Estate, by Bo'ness an alien plant <i>Senecio inaequidens</i> established in that locality; we also found very many orange ladybird larvae and pupae, and a hoverfly <i>Leucozona glauca</i>	DA SA
	24	Nymph of the blue shieldbug <i>Zicrona caerulea</i> above Murrayfield Hospital; we had found an adult shieldbug at Little Boghead during outing 20 th July	DA SA
	25	Garden EH9: 5 juvenile blue tits on feeders, 1 juvenile robin and 1 juvenile dunnock feeding on ground	JMc
	27	Clustered dock, <i>Rumex conglomeratus</i> growing on the banks of the River Esk in Musselburgh	PC
September	4	Garden EH9: Chiffchaff and robin singing; the robin is singing his sad and wistful winter song. The late flowering buddleia had gone over without a single butterfly.	JMc
	22	My first pink-footed geese of the winter, flying over Edinburgh	JMc
October	1	Garden EH9: Lots of juvenile birds: 5 coal tit, 3 blue tit, 2 dunnock. Strangely for this garden no juvenile house sparrows	JMc
	1	Navelwort or wall pennywort <i>Umbilicus rupestris</i> appeared on a damp shady rock face low down on Blackford Hill some 10 years ago and had eventually increased to cover the area with hundreds of rosettes. When I finally visited this autumn there was nothing on the rock face but a few dry stalks and a few rosettes in	JM

		sheltered nooks. Was some of the summer too dry?	
2/17		Blackford Pond: Second visit to look for the Mandarin duck. No sign of it, but I did see the family of brown rats reported by Friends of Hermitage	JMc
29		Lochaline, Morvern: huge influx of fieldfare and redwing. Flocks over 50 during weekend	JMc
29		A rowan <i>Sorbus aucuparia</i> on the Links presented an interesting spectacle. About a third of it was bright red, a third yellow, and the rest still green with red berries shining in the sun. Surely they don't graft rowans	JM
November	20	Garden EH9: 4 starlings and a collared dove pair have returned to garden, both absent since early summer	JMc
	23	Bawsinch SWT Reserve: The old one-man hide opposite Hangman's Rock has been replaced by a more accessible one. The loch was icebound; no wildfowl seen close in	JMc
December	7	Relugas Road and roundabout EH9: masses of fieldfare and a few redwing, perching atop the elm trees. Too flighty to count, possibly over 50 birds	JMc
	29	Garden EH9: Male blackcap feeding on ground-up peanuts on bird table, the first of winter. Many fieldfares remain	JMc

Key - Sarah Adamson SA : David Adamson DA : Patrick Chaney PC : Mary Clarkson MC : Ptolemy McKinnon PM : Joanie McNaughton JMc : Jackie Muscott JM

Waxwings

Between early November 2016 and the end of the year they were a regular sight. Locations of note have been Gullane, Balgreen Tram Stop, Holyrood Park and Musselburgh, with reports mentioning numbers up to 200. There were opportunities for photography and to listen to their trilling.

Some Local Wildlife

For most of the summer I had difficulty walking, so a lot of my natural history observations are very local indeed. However I can even make some observations from my bed!



I look out on the irregular roofs and chimneys of the Spottiswoode Street flats, which make interesting patterns, often enhanced by early morning sun and shadow. In summer I can watch the swifts *Apus apus* wheeling and diving above the chimney tops (they get up earlier than I do). I've also been watching a pair of jackdaws *Corvus monedula* trying to get into a hole in one of the walls, probably an old overflow outlet. One bird seems able to get in, just, and then has to back out, while the other watches. They've been very persistent so there must be a shortage of nesting sites. (Previously blue tits *Cyanistes caeruleus* have nested in a garden wall and also a flat wall).

There was a minor disaster with respect to the swifts as I found a pair of long wings (nothing else) on the back green quite early in the season. Had the bird been taken by a bird of prey? - or somehow grounded itself and been attacked by the local cats, resident magpies *Pica pica*, or lesser black-backed gulls *Larus fuscus* which nest on the roof? There are too many predators around, so I was very pleased to see some young blackbirds *Turdus merula* on the lawn this autumn. The only time I've cheered on a cat was when I saw one chasing the only grey squirrel *Sciurus carolinensis* which has managed to get into the back greens. (I saw it one more time, then never again.)

Butterflies are not common in the garden, but there are a fair number of bees around, and this year I noticed tree bumblebees *Bombus hypnorum* which seemed particularly attracted to some large-flowered magenta geraniums. These very robust geraniums seem intent on taking over the whole border; however they do provide shelter for carder bees *Bombus pascuorum* which make nests of moss and leaf debris above ground among undisturbed vegetation.

As my back improved I began to take short walks along the road and soon became aware of a small

flock of house sparrows *Passer domesticus* in the front gardens – newcomers round here. There is also a small flock of starlings *Sturnus vulgaris* in the area, and I've watched them demolish hanging fat cylinders in pretty short order, and very noisily. Neither flock has yet made it over the flats to the large area of back greens.

Eventually I reached the top of the links where there's an experimental wildflower plot, and this provided interest as the season progressed. Two winters ago the area was doused with weed killer and rotavated, and sown with a mixture of seed – annuals, perennials and some of the more delicate grasses. Last summer the annuals made a good show, and so did a number of undesirable annual weeds such as chickweed *Stellaria media* (it turned out the area had been allotments during the last war). Towards the end of the season one or two grasses and perennials also managed to flower. This year I did not expect to see much of the annuals, but cornflower *Centaurea cyanus* again flowered well, along with a couple of biennials (carrot *Daucus carota* and vipers bugloss *Echium vulgare*), a good half of the true perennials and most of the grasses – and the chickweed was much reduced. Red clover *Trifolium pratense* which was apparently not in the seed mix also came up (good for long-tongued bees) along with some less desirable thistles and docks (the latter definitely need to be weeded out). The area is cut and the 'hay' removed in the autumn.

They are planning at least to double the area next year and it will be interesting to see what happens to both areas in 2017.

Jackie Muscott

Why do we ring birds?

As we left the Royal Park on 22nd June 2016, I spotted a lesser black-backed gull *Larus fuscus* with a coloured leg ring amongst a flock of about 50 of the same species on St.Margaret's Loch. The record was sent off to the BTO and this response, see below, arrived from Portugal about six weeks later. The bird had an interesting history, having been nursed to health at an animal hospital in the Algarve and then released 18 months before.

Colour rings are easy to spot and the identification letters and numbers easy to see, often without binoculars. If you are fortunate, the story of the trail back to the ringing date will be of high interest.

Next time you stroll along the tide line at the beach, bird corpses can be of interest as they are occasionally ringed with simple metal rings. Larger birds especially raptors sometimes have coloured and numbered wing tags which can be seen in flight. Geese and swans may also have neck rings.

Larus fuscus

Ringing date	06/02/15		Ringing location	Quinta de Marim, Olhão	
Age	Adult		Ringer	Thijs Valkenburg	
Sex					
Colour ring	F486		Metal ring	LV6766	
Date	Place	Country	Coordinates	Observer	Days
24/02/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	18
25/02/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	19
09/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	31
11/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	33
12/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	34



Lesser
black-backed gull

			6'27.36"W			
13/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	35	
14/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	36	
30/03/15	Quarteira	Portugal	37° 4'6.19"N; 8° 6'27.36"W	Michael Davis	52	
18/01/16	Monte Gordo	Portugal	37°10'37.93"N; 7°26'58.41"W	Henning Meinecke	347	
22/06/16	Edinburgh	UK	55.945306, -3.157225	Neville Crowther	503	

This bird was rehabilitated at **RIAS** (Wild animal rehabilitation and investigation centre) based in the south of Portugal, in Olhão.

If more information is required about this bird, please send an email to: rias.aldeia@gmail.com

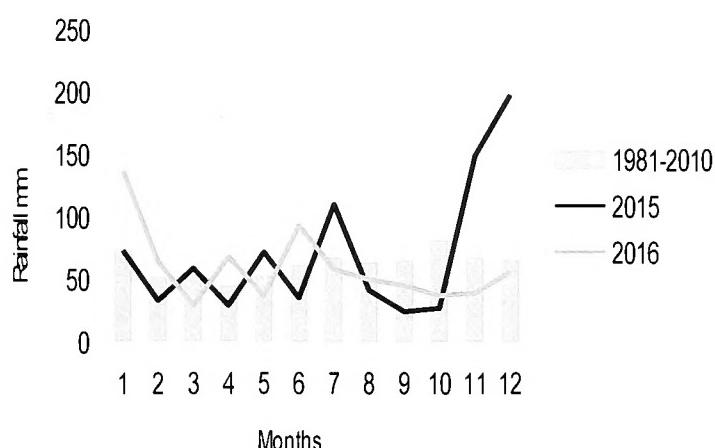
You can also visit the following blog to find out more information about our work: rias-aldeia.blogspot.com/

Keep your eyes peeled and you may be able to uncover a tale of interest.

Neville Crowther

Rainfall in Corstorphine in 2016

The rainfall in 2016 appeared to be taking over where 2015 left off.



Comparison of rainfall (mm) 2016 and 2015 with the long term average (1981-2010)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
2016	137	64	29	68	37	93	58	50	45	37	39	56	713
2015	73	33	59	29	72	35	110	41	24	27	149	198	850
1981/2010	73	52	55	45	53	62	68	64	65	81	68	66	752

November and December 2015 had been exceptionally wet, with 149 and 198 mm respectively, and January 2016 followed with 137 mm. Thereafter, only April and June yielded rainfall substantially above average, with April featuring the year's wettest day (26 mm on the 24th).

March, May, September, October and November had rainfall markedly lower than average. Two short dry periods contributed to the overall rainfall deficit of 2016. No rain fell between 22nd and 28th February and again between the 8th and 16th May. This resulted in a total rainfall for the year of 713 mm as compared with the long term average of 752 mm.

Munro Dunn

50 Years of Rainfall

The completion at the end of 2015 of a run of 50 years of records seemed an appropriate time to look at the figures in somewhat greater depth.

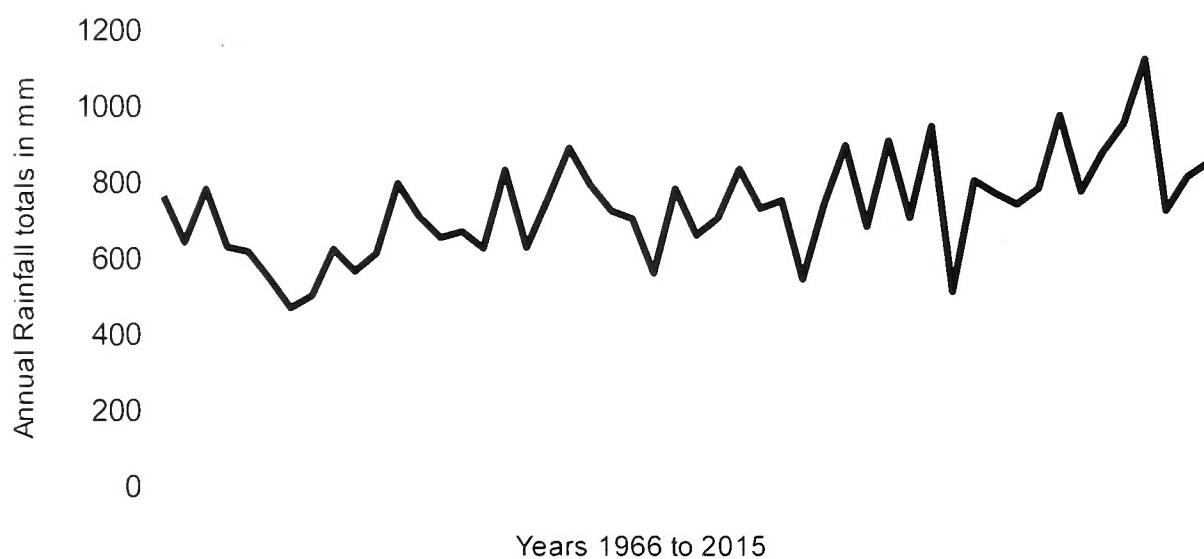
Trends 1966 to 2015

Over the 50 years the average annual rainfall was 730 mm. That single figure, however, conceals wide year to year variations around a clear upward trend. If the 50 year period is divided into five ten-year sections the upward trend is evident. The averages for the ten-year sections are opposite:-

1966-75	611 mm
1976-85	715 mm
1986-95	722 mm
1996-2005	749 mm
2006-2015	860 mm

The driest year of all was 1972 with 466 mm, the wettest 2012 with 1121 mm, more than twice as much.

Annual Rainfall in mm from 1966 to 2015



Seasonality

Rainfall in Corstorphine is not markedly seasonal. Spring (March to May) is the driest season and autumn the wettest with one-third more. Summer and winter are almost equal at a level halfway between the other two. Individual months do not entirely follow this pattern. April, the driest, and October, the wettest, do conform, but February, the second driest, and December, the second wettest, do not.

Monthly and Annual Average Rainfall, and Highest and Lowest Records in mm

	50 year Averages	Highest Record	Lowest Record
January	65	184 (2008)	20 (1997)
February	51	122 (2010)	4 (1993)
March	51	95 (2010)	11 (2012)
April	44	145 (2000)	6 (1980)
May	56	129 (1993)	10 (1994)
June	59	154 (2012)	6 (1979)
July	68	199 (2012)	7 (1983, 1989)
August	66	216 (2008)	5 (1981)
September	60	159 (1985)	6 (1972)

October	77	174 (2002)	14 (1978)
November	65	158 (1984)	9 (1983)
December	68	198 (2015)	9 (1975)
Whole year	730	1120 (2012)	466 (1972)

Frequency and intensity of falls

The increase in rainfall over the 50 years might be thought to be the result of more frequent occurrences of rain. However, that is not the case. Rather, more heavy or prolonged falls occurred in the later parts of the period. Thus, in the first decade, 132 daily rainfalls of 10 mm or more occurred, while in the fifth decade this had risen to 166 occurrences. Even more striking was an increase of substantial falls of 20 mm or more from 16 to 56 mm.

Longer term trends

The upward trend in rainfall over the past five decades appears to be a reversal of a downward trend over at least the previous five decades. This downward trend can be seen in overlapping long term averages for the Royal Botanic Garden. These averages declined from 678 mm for the period 1916 to 1950, to 661 mm for 1941 to 1970, then to 626 mm for 1951 to 1980.

Munro Dunn

Thank you, Munro, for 50 years of Rainfall Reports. Many members comment how they like to read the reports and compare it with their opinion of the previous year's rainfall.

Brocken Spectre

After a long day on the hills with Linlithgow Ramblers there was a huge sense of achievement on reaching the summit of Stob Ghabhar. However, the best was yet to come. Turning around from the summit to look down on Coirein Lochain it was an unexpected delight to see the Brocken spectre on the swirling mist below. With the sun by now low in the September sky our shadows were being cast onto the clouds below. Surrounding our shadows was an almost circular rainbow-like effect, sometimes called 'the glory', giving the whole image a rather surreal appearance. This natural phenomenon, named after the Brocken peak in the Harz Mountains of Germany requires the sun to be behind the observer and there to be a mist or cloud of uniformly sized water droplets below. The sun shining on the water droplets and the associated atmospheric optics involving diffraction, reflection and refraction gives the rainbow effect. We stood in wonder for around 15 minutes until the phenomenon disappeared and our descent beckoned. Recounting my experience to others I was informed that you don't have to climb high mountains to be rewarded by this experience and a walk across the Forth Road Bridge on a sunny winter's day with mist on the river below can be equally gratifying. For further information on the Brocken spectre see Wikipedia.

Kathy Buckner

Ladybirds and Shieldbugs in Edinburgh and tips on where to look for them

These insects make good subjects to study in the suburban field. In some ladybird and shieldbug species it is possible to discover their favoured habitats and by nature they are attractive, predictable and generally slow moving. They present a challenge, having life cycles of several stages when they look unlike the previous stages and the adult form.

Ladybirds are beetles *Coleoptera* and are like ants, bees, wasps, butterflies and moths in that their life cycle involves complete metamorphosis.

Ladybirds - Coleoptera (order) Coccinellidae (family)

Eggs	Larva – four instars	Pupa - attached to substrate and mainly immobile	Adult – membranous wings and hard wing cases or elytra
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Recently, the orange ladybird *Halyzia 16-guttata* has been conspicuous along the Water of Leith on metal fence posts below Colinton Parish Church, where overwintering gatherings of adults have reached over 600 individuals. They are also to be found on the lower slopes of Corstorphine Hill on smooth barked trees and within the coats of ivy. Like the adults, the larvae and pupae are brightly coloured and unmistakable; however, they do tend to live out of sight.

The more classic ladybird species that are red with black spots are diverse in their lifestyles. Some species, especially the 2-spot *Adalia 2-punctata* and 10-spot *A. 10-punctata*, are variable in their appearance and much smaller than the typical 7-spot ladybird *Coccinella 7-punctata*. The 2-spots have a liking for rusty railings under aphid laden trees. Here you will often see all four stages. The 10-spots tend to stick to trees and the tips of branches, where they are difficult to see. The 7-spots are large and you will see all stages in sunny locations, such as on walls, scree and plants. The tiny pine ladybird *Exochomus 4-pustulatus* is a shiny black beetle with a lip around the lower edge of the wing cases. You would not necessarily recognise it as a ladybird but the adults often pose in spring and autumn on walls, tree trunks and plants.

The remaining species are less likely to be seen unless you walk around staring at fences and peeping into curled-up leaves and conifer shoots.

You may see any of the following ladybirds: cream spot *Calvia 14-guttata*, larch *Aphidecta obliterata*, eyed *Anatis ocellata*, striped *Myzia oblongoguttata*, 14-spot *Propylea 14-punctata*, hieroglyphic *C. hieroglyphica* and 11-spot *C. 11-punctata*.

On the other hand shieldbugs are *Hemiptera*, exhibiting incomplete metamorphosis with three distinct stages as also seen in crickets, grasshoppers, damselflies and dragonflies.

Shieldbugs – Hemiptera (order) Acanthosomatidae, Pentatomidae and Lygaeidae (families)

Eggs



Larva – five instars



Adult – membranous wings, hemelytron and scutellum



Although less familiar than ladybirds, shieldbugs are still eye-catching. The hawthorn shieldbug *Acanthosoma haemorrhoideale* hides well until the fruiting season of *Rosaceae* trees, when late instar nymphs feed on the fruit. The large adults disperse and will overwinter in cracks and gaps in trees and buildings. The birch shieldbug *Elasmostethus interstinctus*, parent bug *Elasmucha grisea* and birch catkin bug *Kleidocerys resedae* can all live on the same mature birch tree well-endowed with catkins. The birch shieldbug and parent bug inhabit the catkins, leaves and stems and have distinctly patterned nymphs; the parent bug nurses her eggs and nymphs until instar two or three. Although they are ground bugs, the tiny birch catkin bug nymphs and adults live on birch catkins.

Gorse shieldbugs *Piezodorus lituratus* lay 12 to 14 eggs, on a leaf/spine which hatch into nymphs which feed on developing seed pods. The shiny adults make short flights around gorse bushes.

The forest bug or red-legged shieldbug *Pentatoma rufipes* is ubiquitous and fits its scientific name with five-segmented antennae and red legs. Its smiley face eggs caused a stir on a Nats outing this year. A stunning blue shieldbug *Zicrona caerulea* appeared during an outing in West Lothian and, later on Corstorphine Hill, a bright red shieldbug nymph turned out to be a blue shieldbug nymph. Sarah Adamson

A maritime variety of common couch *Elytrigia repens* colonising inland road verges and colonised by the gall-forming hymenopteran insect, *Tetramesa hyalipennis*

I first noted common couch *Elytrigia repens* by salt-treated roadsides in 1997, at an elevation of 360m on the A68 near Soutra in Berwickshire (NT4757). In 2016 I found it to be constant on the A7 from Moss paul to Selkirk, a distance of about twenty miles. It is present as a distinctive low-growing, glaucous plant with relatively-narrow flat leaves and sparse flowering stems which may be geniculate. It forms modest patches in the halophyte or salted zone, especially in the strip treated with herbicides, where its rhizomes progress poorly in the hard substrate and seldom extend into the

wider mown strip. They do not prosper even where they do extend away from the kerbside. There may or may not be a series of such patches forming an extended strip at the top of the kerb, but such strips do not seem to have been formed by rhizome growth. It appears to be a distinct maritime ecotype that may well have colonised from the coast where similar ecotypes occur. It does not correspond to the coastal subspecies *Elytrigia repens* subsp. *arenosas*, which has in-rolled leaves. Its survival as a perennial in a zone that is treated with herbicide may be related to the protection offered by its rhizomes which are unlikely to be killed off completely. The couch is colonised freely by the hymenopteran insect, *Tetramesa hyalipennis*, which forms cigar-shaped galls on its stems in which the larva feeds, preventing the stems from forming inflorescences. The galls consist of layer on layer of very short leaves. Some such galls will undoubtedly be cut off by grass-cutting machinery which might occasionally help to disperse the insect, but it is doubtful whether they could act as pseudo-plantlets and so disperse the grass. To try to test this hypothesis I planted some of the galls in two plant pots with different soil mixes, but they were found by blackbirds and all the galls were devoured.

The gall is said to be common and is featured in the colour illustration on the cover of British Plant Galls by Margaret Redfern and Peter Shirley, printed as a part of the Field Studies Council's journal Field Studies, 10, (2002) 207-531. After finding the gall on Roxburghshire road verges I looked for it by a moorland road in Northumberland and found it at once. I also looked on the Dumfriesshire coast in September 2016 and readily found it on the maritime variety of common couch at the back of a beach and in cliff-top grassland. I have looked for the gall on the normal inland variety of common couch, but its habitats make it difficult to search and I have had no success.

I would much welcome any observations of either the maritime variety of common couch by inland roads, or the gall wherever found. The gall should surely be at Aberlady for a start.

Michael Braithwaite, **Clarilaw Farmhouse, Hawick TD9 8PT, mebraithwaite@btinternet.com**
Copies of a booklet giving my report on the Flora of the A7 are available from me free of charge from the above address.

Note - On 8th December 2016 I found two specimens of the gall on the inland variety of common couch in a gateway just down the lane from our house.

Moth Trapping at Royal Botanic Gardens Edinburgh

As a volunteer interested in more than plants I had been reporting casual sightings of animals and more recently actively searched for shieldbugs and ladybirds. In April 2016 I suggested to Peter Leach that we could use the new RBGE moth traps within the gardens. In August, with Peter, our first trapping took place in the copse conveniently close to a power source. Peter's battery trap went in the Edible Garden. Moths were caught and without any hitches.

Two further trappings took place, firstly, 30/31st August, using the RBGE mains and battery traps. The haul was about 72 moths in the mains trap and none in the RBGE battery trap. Most of the moths were large yellow underwing *Noctua pronuba* but a small number of other species were photographed for later identification. These moths were copper underwing *Amphipyra pyramididea*, common marbled carpet *Dysstroma truncata*, mottled beauty *Alcis repandata*, tawny-speckled pug *Eupithecia icterata* and July highflyer *Hydriomena furcata*.

Since the methods seemed to work, interested members were invited to come along on 7th September. At 8am seven of us, including Tom Dawes, an MSc student at RBGE, assembled to empty the traps. The mains trap attracted a good number of moths, approximately 50. Amongst these there were some copper underwings but considerably more yellow underwings. The battery trap, in the grassland by the Edible Garden polytunnel, had a few micro-moths and other organisms. Both traps had taken in water in the heavy overnight rain and soaked the egg boxes. There were several non-moth species, including; caddis flies, daddy long-legs, wasps, earwigs and many back-swimmers. I had never considered that back-swimmers fly and a quick Internet search revealed that they do and are attracted to light. With the lack of macro-moths we discussed why this trap was not catching moths and decided that perhaps the battery was not sufficiently charged, although the light attracted other night fliers. The moths trapped and later identified were pink-barred sallow *Xanthia*

togata, dun-bar *Cosmia trapezina*, pine carpet *Pennithera firmata* and flame carpet *Xanthorhoe designata*, alongside the micro-moths diamond-back moth *Plutella xylostella* and light-brown apple moth *Epiphyas postvittana*.

Peter had lent me his mains moth trap and when I first tried it at home caught a large number of wasps clustered around the bulb ends and along the cables. It had been a coolish night and the wasps flew away as the sun intensified. Once again there was a good number of large yellow underwings and fewer other species.

No further trapping sessions took place for a variety of reasons, including 11th October to 6th November when Botanics Lights prevented trapping due to being a conflicting event with light! Once some of the wrinkles have been ironed out, moth trapping should prove to be a useful Nats activity.

Sarah Adamson

Outdoor Excursions

Guidelines for excursion leaders were produced towards the end of the year which outline conduct and requirements for a safe excursion. First aid kits are now available to deal with small injuries whilst out.

Cammo Estate NT178749

16th January 2016

Leader: Jean Long

Because of a pheasant shoot taking place in the Dalmeny Estate I had to change the venue. A group of 22 people met instead outside the visitor centre at the entrance to Cammo Estate. From here we made our way a short distance along the East Avenue, laid out in 1717 by Sir John Clerk the owner. Originally it was lined with lime trees *Tilia x europaea*, none of which now survives. By the early 19th century oak *Quercus* spp. and sycamore *Acer pseudoplatanus* had also been planted between the original lime trees and some of these can still be seen.

First we stopped to look in the strip of wood to our left where fallen trees and rotting stumps provided a good habitat for fungi. Even though it was January we came across quite a variety and Vladimir was pleased to discover split gill *Schizophyllum commune*. Some others we found included dryad's saddle *Polyporus squamosus*, *Bjerkandera adusta*, *Stereum hirsutum*, a purple ascomycete *Ascocoryne sarcoides* and velvet shank *Flammulina velutipes*.

Continuing along the avenue we looked at an interesting hollow elm *Ulmus* spp. pollard, one of the oldest surviving trees, from around 1800. Much older is the nearby standing stone which we visited. It probably dates from the later Neolithic or early Bronze Age. Soon we came to what remains of Cammo House, built in 1693. It was hard to imagine that this building originally consisted of three storeys and by the mid 1800s had been extended to contain more than 50 rooms.

The Pinetum was our next stop. Here can be seen examples of all of the exotic trees to be found at Cammo. The mature ones date back to the late 1800s and include giant sequoia *Sequoiadendron giganteum*, monkey puzzle *Araucaria araucana*, western red cedar *Thuja plicata* and Japanese umbrella pine *Sciadopitys verticillata*. There were also young trees planted since 2011, such as deodar *Cedrus deodara*, Spanish fir *Abies pinsapo*, Chilean plum yew *Prumnopitys andina* and swamp cypress *Taxodium distichum* which loses its leaves in winter. After a quick look at the canal which was built around the early 1730s as an ornamental feature, we made our way towards one of the flower meadows created in the last few years by the Friends of Cammo. At this time of the year the interest was not the variety of colours of flowers but rather the shapes of the dry flower and seed heads. These included tansy *Tanacetum vulgare*, knapweed *Centaurea nigra*, viper's bugloss *Echium vulgare* and the most unusual one to me was the teasel *Dipsacus fullonum*. The prickly seedheads, instead of being brown were green. Closer examination showed that the seeds had begun to germinate in them. Never having seen this before I gathered the group together so that they could have a look at them and most of them had never seen green teasel heads in winter. Jackie Muscott explained that it was probably due to the earlier mild damp weather conditions which had caused

the seeds to germinate too soon. Also of note in this area was the single broken ash *Fraxinus excelsior* dating from 1720.

We then made our way gently uphill, noticing some elder *Sambucus nigra* coming into leaf. The woodland path came out into an open area between the High and Low Meadows. Some of the catkins of the hazel *Corylus avellana* were fully out and on shaking them a cloud of pollen appeared. We ate lunch sitting in the Low Meadow near to the oldest tree in the estate, an oak which dates from 1669.

Once we left here we entered woodland again where some puffballs *Lycoperdon pyriforme* were seen on dead wood. Then we had the pleasure of watching nuthatches *Sitta europaea*. Elsewhere on our walk mistle thrush *Turdus viscivorus* and buzzard *Buteo buteo* were noted. On a fallen dead tree trunk there were clusters of oyster mushrooms *Pleurotus ostreatus*.

The walled garden, constructed in the early 1780s, was our next stop. Just before we went through an entrance on the north side I pointed out the remains of one of the furnace houses which provided heat for this wall. This garden is well-known to many at snowdrop *Galanthus nivalis* time, but we were a little too early. A few were out but there were carpets of them in bud. The Friends of Cammo have planted a number of apple and pear trees which we looked at. Jew's ear fungus *Auricularia auricula-judae* was found nearby. On leaving the garden on the west side I showed the group some tiny fungi I'd found on my recce. They were on dead pine twigs and Mary later told me they were *Panellus mitis*.

Around Cammo there are a number of outlook points from which good views can be had. We stopped at one and were able to look across to the Pentlands and Corstorphine Hill. The Water Tower was also visible and it was towards this that we now walked. It was built between 1819 and 1823 and from it water was piped to Cammo House. From the edge of a field we had a good view across to it before we turned along to the nearby stable block. Built in 1811 it would have housed about seven horses, a forge, a harness room, hayloft and accommodation for several carriages. We headed east along Oak Avenue towards the car park. Near it, up to a few years ago, was the only remaining oak dating from 1710. Now only the huge stump remains as the tree was discovered to be diseased and had to be cut down.

A well-defined path brought us beside the Bughtlin Burn then to the visitor centre – the end of our day's excursion. I was pleased that Cammo Estate had proved to be a good alternative to Dalmeny. A lot of members had come out and enjoyed this walk on a cold but dry winter's day. Later David Adamson gave me a record of the following – a tiny white toadstool *Hemimycena hirsuta*, a moss called *Ulota phyllantha* with gemmae and a liverwort *Frullania dilatata* which he'd found on a lime tree.

Jean Long

Torryburn and Valleyfield NT005863

20th February 2016

Leader: Wilma Harper

On a grey morning, the group headed into Torryburn near Culross. This area has many former mining villages including High and Low Valleyfield, and runs along the north bank of the Forth in Fife. Leaving the car park, the group headed through some conifer and birch *Betula* spp. trees. Here we saw chaffinch *Fringilla coelebs* and goldfinch *Carduelis carduelis*. In birch trees, Joanie McNaughton pointed out long tailed tits *Aegithalos caudatus* having heard their distinctive 'tsee tsee tsee' call. On walking past the lagoons, the 'clinking' sound of teal *Anas crecca* was heard and then the group got good views of greenshank *Tringa nebularia*.

Along the path were the ruins of a mill. On reading the sign, it was discovered that this area was known as Preston Island. This was after Sir Robert Preston, who reclaimed the land, had a sea wall built and the land was used for coal mining and salt panning. The mines were put out of use in 1939 due to the Valleyfield Colliery disaster. After searching around the ruins, we reached the Forth where there were fossils. They were very interesting, with an array of invertebrates in the rocks. After taking a long look at these incredible prehistoric creatures, the group headed back along the

path, with fieldfare *Turdus pilaris* flying past. After visiting Torryburn we had lunch in High Valleyfield. Here we saw a skein of pink-footed geese *Anser brachyrhynchus* fly over and grey wagtails *Motacilla cinerea* were seen from the bridge nearby.

In the afternoon we headed up the path out of the village and into Valleyfield Wood. Along the bank of the burn an orange layer showed where mine water had become aerated, allowing the oxidised iron to settle out. We walked from deciduous woodland into coniferous forest. At one point of the route, David Adamson and I ventured off the path to check for mosses on the bank of the burn. When David looked at them, he noticed some were more typical of upland environments. At this point, a dipper *Cinclus cinclus* was seen. The majority of plants seen were snowdrops *Galanthus nivalis* and butterbur *Petasites albus*.

Towards the end of the route, the group stopped at a house once lived in by David Douglas, a botanist born in Scone in 1799. I learned about him when I grew up in Perthshire. He was an apprentice of the Earl of Mansfield before moving to Valleyfield and used the library of Sir Robert Preston for botanical study. During his life, he explored the Scottish Highlands and North America, bringing trees such as Douglas fir *Pseduotsuga menziesii*, noble fir *Abies procera* and grand fir *Abies grandis* to Britain.

When walking back through the woodland near Valleyfield village I heard many birds calling from a patch of vegetation. There was a large group of coal tits *Periparus ater*, roughly 20, and goldcrest *Regulus regulus*. Walking back into the deciduous woodland and down the Bluther Burn towards the cars, minds turned to refreshments. Therefore, in typical Nats fashion, the day finished having tea and cake at a café in Culross.

Ptolemy McKinnon

Tweedbank NT524348

19th March 2016

Leader: Jean Murray

Jean Murray and Maureen Richardson were at Tweedbank Station to meet the ten Nats who had travelled by train from Edinburgh. Also at the station was Mike Robinson who had arrived by bus from Penicuik. We soon set off on a cool, grey day to join the Southern Upland Way as it followed the south bank of the Tweed towards Melrose. After lunch we crossed the river by the chain bridge near Gattontside, and returned to Tweedbank via the Lowood Bridge. After we left Tweedbank Station on our way home, the sun shone and transformed the countryside that had been so drab on the outward journey.

During the winter the Tweed had risen to almost unprecedented levels, and the flooding was evident from the debris tangled in branches and spread well away from the river. Spring plants were forcing their leaves through the winter deposit of sand and silt. However the recent dry spell had allowed the Tweed to return to its normal level, and the goosanders *Mergus merganser*, grey wagtails *Motacilla cinerea*, dippers *Cinclus cinclus* and mallards *Anas platyrhynchos* were all active as usual. Nuthatches *Sitta europaea* were calling, and we were drawn by an unusual bird song that turned out to be that of a male siskin *Carduelis spinus*. On a garden wall was a lime-encrusted moss *Encalypta streptocarpa*.

We took lunch just below the chain footbridge. Jean Murray told us that purple toothwort *Lathraea clandestina* had been recorded there, and Sarah-Louise Davies managed to find several patches of this unusual alien plant. After Kathy Buckner had found the hand lens that one member had dropped, we crossed the chain bridge, ignoring the advice that no more than eight persons should attempt to cross at any one time. The north bank of the river below Gattontside was more wooded than the south side, but both banks were carpeted with the invasive alien few-flowered leek *Allium paradoxum*. There were occasional leaves of the native garlic, ramsons *Allium ursinum* and some dark cylindrical leaves of another species, possibly crow garlic *Allium vineale*. Apart from lesser celandine *Ficaria verna*, gorse *Ulex europaeus* and dog's mercury *Mercurialis perennis*, only some plants of barren strawberry *Potentilla sterilis* and cut-leaved dead-nettle *Lamium hybridum* were noticeably in flower.

We left the grey cloud behind us, the sun shining from a blue sky as our train returned to Edinburgh on the Borders Railway. However the outing had been anything but dull. Many thanks to Jean for leading yet another excellent spring walk in the Borders.

David Adamson

Musselburgh Scrapes, Sea and River NT358735

2nd April 2016

Leader: Kevin Ingleby

It was an encouraging turnout for the first excursion on the summer programme, even with a 10 am start at the scrapes. Kevin's observational faculties were put to use immediately as he dashed from one hide to another keeping members informed about the large flocks of ducks and waders pushed onto the scrapes by the high tide. Many of the two godwit species, mainly bar-tailed *Limosa lapponica* and fewer black-tailed *L. limosa*, were adopting the chestnut breeding plumage. Curlew *Numenius arquata* numbering over 90 and oystercatchers *Haematopus ostralegus* over 200 were packed in dense ranks alongside the pools. One elegant greenshank *Tringa nebularia* and a couple of ringed plovers *Charadrius hiaticula* added to the throng, as did mallard *Anas platyrhynchos*, teal *A. crecca*, wigeon *A. penelope*.and shelduck *Tadorna tadorna*.

In the surrounding shrubs and trees many of us heard and saw our first chiffchaffs *Phylloscopus collybita* of the year with their repetitive songs. A large amount of watching time was spent by the more westerly hide where a pair of industrious long-tailed tits *Aegithalos caudatus* were building a nest in a gorse bush *Ulex europaeus* seemingly oblivious to the crowd of observers only a metre or two away. Also, in the alders *Alnus* sp. and white poplars *Populus alba* we counted five male reed buntings *Emberiza schoeniclus*, bright as buttons, and several hens, as we walked to the seawall. Skylarks *Alauda arvensis* trilling high above were a delight and on the sea a scatter of goldeneye *Bucephala clangula*, long-tailed ducks *Clangula hyemalis* and eiders *Somateria mollissima* were always visible. The keener eyes picked out a few auks *Alcidae*, red-throated divers *Gavia stellata*, Slavonian grebes *Podiceps auritus* and a lone drake surf scoter *Melanitta perspicillata*. This individual has been well recorded by locals for a couple of years. A surprising 65 red-breasted mergansers *Mergus serrator* were counted on the way to the Esk mouth.

There were the usual clamouring flocks of greylag *Anser anser* and Canada geese *Branta canadensis* and many mute swans *Cygnus olor* where children plied them with bread. Nearer to the mouth a couple of goosanders *Mergus merganser* slept on the emerging mussel beds, a pair of gadwall *Anas strepera* were confirmed amongst the mallards and a male white wagtail *Motacilla alba* on passage was spotted by the observant few.

We returned to our cars across Levenhall Links, sadly without the many short-eared owls *Asio flammeus* that only a few months before had drawn twitchers from far and wide. In their absence, David Adamson was able to extend the variety of our records, by finding several gorse shieldbugs *Piezodorus lituratus* and 7-spot ladybirds *Coccinella 7-punctata*. Queen bumblebees *Bombus pratorum*, *hypnorum* and *terrestris* and the odd honey bee *Apis mellifera* added to the feeling that the season had at last changed. The list of 54 bird species was a compliment to Kevin's keen eyes and ears as well as local knowledge.

Neville Crowther

Water of Leith - Slateford to Colinton circuit NT221708

9th April 2016

Leader: David Adamson

The 17 Nats who attended this outing at various times today were joined by three guests, Ellen and Channa from Napier University and Javier from the USA. The wet weather of the previous few days had been ideal for the main subject of this excursion which was bryophytes.

In the morning we followed the path upstream from the Water of Leith Centre at Slateford to Colinton. Although this session focussed on mosses and liverworts, we paused just past the grotto to look at the shrinking patch of wood goldilocks *Ranunculus auricomus* growing alongside plantain-

leaved leopard's-bane *Doronicum plantagineum*.

We then stopped by a fallen tree trunk to examine the assemblage of mosses that had established themselves on the damp, rotting wood. The top of the log was dominated by a carpet of non-native *Campylopus introflexus* which I had first noticed on a winter excursion some years ago. Below this was a small patch of another introduction, *Orthodontium lineare*, noticeable due to its abundant capsules on horizontal red setae.

Near Kate's Mill Cottage is another very old log which had long since lost its bark. These conditions had allowed a small trailing leafy liverwort called *Nowellia curvifolia* to establish itself, and it was accompanied by a tiny rare thallose liverwort, *Riccardia palmata*. By the steps leading to the weir bridge we found a flattened moss *Homalia trichomanoides* that I had only previously seen in the Eildon Hills.

Our final stop before lunch in Spylaw Park was at the moss-covered wall below Colinton Village. This is dominated by *Thamnobryum alopecurum* and *Ctenidium molluscum*, but has a great variety of other species, some of which we found on the day. These included the liverwort *Plagiochila poreloides* and the moss *Encalypta streptocarpa*.

At lunchtime we had five departures and one arrival, and the return journey to Slateford via the Water of Leith walkway and Redhall walled garden had a more general theme. We had already seen many hibernating orange ladybirds *Halyzia 16-guttata* on railings below Colinton church, and larger groups were clustered on some fenceposts near the tunnel. Tom Delaney saw a comma butterfly *Polygona c-album*, and also recorded nuthatch *Sitta europaea*, blackcap *Sylvia atricapilla*, chiffchaff *Phylloscopus collybita*, treecreeper *Certhia familiaris*, stock dove *Columba oenas* and buzzard *Buteo buteo*. Dippers *Cinclus cinclus* were active along the river.

Some of us persevered with bryophytes, and spent a few minutes gazing through hand lenses at epiphytes on some lichen-covered ash trees *Fraxinus excelsior*. Species recorded were *Orthotrichum affine*, *O. pulchellum*, *Ulota phyllantha* with its brown gemmae, *Ulota bruchii* and *Metzgeria furcata*. Javier and I found more epiphytes, including *Radula complanata*, *Metzgeria fruticulosa* and *Frullania dilatata*, when we diverted to explore a shingle island opposite Redhall. Our final stop was at the Water of Leith Centre where we studied the tea and cakes with much interest and enthusiasm.

David Adamson

Penicuik Estate NT220599

16th April 2016

Leader: Molly Woolgar

After a wet and windy week, it was a relief to see the sun when we arrived at Penicuik Estate. We were at the change of seasons, with young lambs in the pasture, birds singing everywhere and flowers peeping out in the woods, while a sharp shower of hailstones in the afternoon reminded us that we had not yet left winter behind.

Between the car park and the partly restored Penicuik House there was interest for botanists and birders alike. We had very good views of great and coal tits *Parus major* and *Periparus ater*, nuthatches *Sitta europaea*, a male siskin *Carduelis spinus*, a goldcrest *Regulus regulus* and a wren *Troglodytes troglodytes*, while buzzards *Buteo buteo* mewed overhead. Those on the lookout for plants found dog's mercury *Mercurialis perennis*, common whitlow-grass *Erophila verna*, lesser celandine *Ficaria verna* and opposite-leaved golden saxifrage *Chrysosplenium oppositifolium* in flower.

On the way down to the lower pond we had good views of a grey heron *Ardea cinerea* and one sharp-eyed member spotted a swallow *Hirundo rustica* flying low over the water. Candlesnuff fungus *Xylaria hypoxylon* was found on logs by the path, and on the end of a very old beech log *Fagus sylvatica* was a silvery coloured, cushion-like myxomycete, *Reticularia lycoperdon*. In marshy ground, not far off the path, were marsh marigolds *Caltha palustris* in full golden bloom. Our lunch spot provided grandstand views of coot *Fulica atra*, moorhen *Gallinula chloropus*, tufted



Pick-a-back plant

duck *Aythya fuligula*, mallard *Anas platyrhynchos* and little grebe *Trachibaptus ruficollis* in the pond. The conifer logs on which we were sitting had on their cut ends the small bracket fungus *Skeletocutis amorpha* with its bright orange-salmon fertile surface. Nearby, oyster mushrooms *Pleurotus ostreatus* were spotted on a fallen trunk.

After lunch, the party split into two groups. One followed the river downstream and found primroses *Primula vulgaris* and coltsfoot *Tussilago farfara* in flower and leaves of pick-a-back plant *Tolmiea menziesii* on its banks. There was a dipper *Cinclus cinclus* flying low over the water. They had fun trying to identify plant leaves by the path and in a ditch, finding smooth lady's-mantle *Alchemilla glabra*, crosswort *Cruciata laevipes* and brooklime *Veronica beccabunga*.

The second group visited an area in the woods south of the river where green woodpeckers *Picus viridis* had nested in previous years. They found plenty of holes but no signs of recent occupancy. However, they heard the drumming of great spotted woodpeckers *Dendrocopos major* and saw treecreepers *Certhia familiaris* and more siskins, chiffchaffs *Phylloscopus collybita* and nuthatches. The highlight was a small flock of bramblings *Fringilla montifringilla* which were probably passing through on their way to Scandinavia and no doubt the last sighting until the autumn.

Mary Clarkson with help on birds from John Palfery and Neville Crowther

Roslin Glen NT274631

23rd April 2016

Leader: Liz Kungu

Roslin Glen conjures up images of giant horsetail *Equisetum telmateia* and Dutch rush *E. hyemale* for plant hunters and both were duly found though the former was just beginning to show; the latter grew conveniently by the path. There was an abundance of the alien few-flowered leek *Allium paradoxum* to be tutted over, some townhall clock *Adoxa moschatellina* and quite a bit of opposite-leaved golden saxifrage *Chrysosplenium oppositifolium* and wood anemone *Anemone nemorosa*.

Wych elm *Ulmus glabra* was just coming into flower and a few bluebells *Hyacinthoides non-scripta* were showing colour. I don't hear the birds the way I used to but had no trouble with the noisy jackdaws *Corvus monedula* round the castle. Others mentioned house and tree sparrows *Passer domesticus* and *P. montanus* at the car park, with nuthatch *Sitta europaea*, chiffchaff *Phylloscopus collybita*, grey wagtail *Motacilla cinerea*, wren *Troglodytes troglodytes*, chaffinch *Fringilla coelebs*, blue tit *Cyanistes caeruleus* and great tit *Parus major* along the way.

This however had been listed as a bryophyte outing and we were fortunate to have Liz Kungu from RBGE as our leader. She began with some basic information for those new to the subject before we set off down the path taking time to look at wall mosses on the way. *Bryum capillare* for instance, with its drooping green capsules is an easy one to recognise. When someone asked why there were some stalks without capsules, Liz explained that birds and insects can use them as food. The moss plant may contain unpleasant chemicals and be left untouched but capsules can be highly nutritious. Where the path levels out you are faced with the massive castle battlements now completely covered by the dark green thallose liverwort *Conocephalum conicum*, some with sporophytes on their long delicate pale stalks. We spent some time there poking about among the rocks. *Mnium hornum* is a common woodland moss. Here Liz pointed out its relative *M stellatum* on the castle rock; it was new to me. At this point the party began to spread out; not everyone finds bryophytes deeply absorbing.

Many trees sport small tufts of mosses on trunks and branches. We found *Orthotrichum* and *Ulota* species and Liz was pleased to find *Cryphaea heteromalla* on elder *Sambucus nigra*. Trees can also host leafy liverworts like *Radula* or *Metzgeria* while *Nowellia* prefers rotting logs.

Eventually we caught up with those who had walked on and joined them for a sunny lunch.

The ongoing path was muddy in places, crossed by the occasional ditch, one of which rewarded us with a little green lettuce-like liverwort *Fossombronia pusilla* and two wet place mosses *Dichodontium palustre* and *Pohlia wahlenbergii*.

Later we wandered into the area known as Moncks battery - General Monck bombarded the castle from here while fighting for Cromwell against the royalists. Liz was pleased to find the rare

Taxiphyllum wissgrillii, a shiny pleurocarp moss which David Adamson and I had never heard of. It was tucked away under *Anomodon viticulosus* which isn't all that common either.

Altogether Liz listed 72 species and mentioned in her email that although Roslin has been well recorded, nine new species were found, three being new to the hectad.

We ended the day in typical Nats fashion with tea in Roslin village.

Jean Murray

Wallace's Cave NS951724

30th April 2016

Because of a TWIC meeting there was no official outing on this Saturday, but David and Sarah Adamson arranged an unofficial one. Wallace's Cave is on the West Lothian bank of the Avon, not far from Westfield, and our route took us northwards along the river bank through the remnants of ancient woodland. We were pleased to see dippers *Cinclus cinclus* in the water and to hear a great spotted woodpecker *Dendrocopos major* drumming.

Spring flowers were coming out – wood anemones *Anemone nemorosa*, some of them pink, and the tiny moschatel or town hall clock *Adoxa moschallina* with its square flower head, a pale yellow flower on each face and another on top. Most interesting was a large patch of white butterbur *Petasites alba*. Most patches are all male, but this one was female, not common, but there are one or two W. Lothian sites. An attractive non-flowering plant was wood horsetail *Equisetum sylvaticum*, the daintiest of the horsetails.

The riverside is a good area for mosses, and a splendid find was *Leucobryum glaucum* which forms distinctive pale green cushions in woodland and moorland. Also easily recognisable was tamarisk moss *Thuidium tamariscinum* with fronds like miniature ferns. Given the time of year fungi were in short supply, but a good find was the alder bracket *Inonotus radiatus*, parasitic as the name suggests and found mainly on alder *Alnus glutinosa*.

By the time I got back to the car I could hardly walk. Accustomed to back ache, I thought it would be all right after a good night's sleep, but it turned out that part of my spine was crumbling (osteoporosis), and that was my last trip with the Nats in 2016.

Jackie Muscott

Corstorphine Hill NT206736

4th May 2016

Leader: Ian Moore

Ian began by explaining the biological richness of Costorphine Hill: 93 bird species recorded on the hill and nearby stretch of the Water of Leith; some 45 species breeding, of which 13 are hole nesters and 12-13 breed in gorse *Ulex europaeus*. Moreover, they breed in high densities – for example, 20 pairs of stock doves *Columba oenas* and over ten pairs of nuthatch *Sitta europaea*. The reason for this richness is the number of tree and other plant species: 46 tree species, over 30 species of shrub, and more than 120 species of flowering plants provide plentiful food sources for birds. And the hill supports not only a varied flora but an ancient one: the area has been little farmed and 21 plants growing there are indicators of ancient woodland.

Ian focused on the south end of the hill and led us to the Rest and Be Thankful viewpoint where a bird feeding station has been set up. It provided the morning's first highlight: a pair of nuthatches collecting seeds as we stood within a yard of them.

On the gorse-covered southern slopes, great-spotted woodpeckers *Dendrocopos major* had excavated a nest hole half way up a beech tree *Fagus sylvatica* and as we watched the female looked out, then the male arrived to relieve her. Green woodpeckers *Picus viridis* also breed on the hill but, although we heard a distant yaffle, we failed to see one. The most dramatic birds of the day were the resident buzzards *Buteo buteo*. Two pairs nest and for half an hour one pair displayed over their territory. At one stage three birds were present and two performed display stoops, sometimes closing their wings completely and plummeting head first towards the ground.

During the walk 34 bird species were recorded. Nine species were in song, including blackcap

Sylvia atricapilla, willow warbler *Phylloscopus trochilus* and chiffchaff *P. collybita*. One songster, not unlike a blackbird *Turdus merula* but with shorter phrases, was a mistle thrush *T. viscivorus*, still singing though late in its breeding season.

Two plants are troublesome aliens: spiraea *Spiraea* sp. and salmonberry *Rubus spectabilis*, especially the latter. The spiraea is crowding out the gorse in places and the salmonberry, a relative of the raspberry and native to the west coast of North America, is advancing relentlessly across the hill from the north-west. It forms thickets which out-compete everything else and is spread in part by birds eating the berries.

At the end of the morning Ian took us, by way of the badger *Meles meles* sett, to see prehistoric cup marks. On a rounded slab of dolerite, a roche moutonnée (sheepback), nine cups were arranged as a five-sided shape with two more in the middle. Probably part of a Neolithic or Bronze Age sacred landscape of c3600-1500 BC, they were only discovered in 1991 and are surprisingly difficult to see unless wet, when puddles collect in them – as Ian demonstrated with a bottle of water!

Our thanks to Ian for an enjoyable, interesting and informative walk.

John Palfrey

Burnmouth to Eyemouth NT953607

7th May 2016

Leader: Tom Delaney

Driving down through the haar that became more and more dense the further east we travelled, we wondered what would be in store for us. Would anyone turn up on such a day? Would we actually see anything apart from the grass at our feet?

There was no need to worry for a group of ten cheerful souls set off from Burnmouth with a spring in their steps and before we had made any headway house martins *Delichon urbica* were sighted along with approximately 12 of their nests seen under the eaves of the village houses.

As we walked along the cliff tops there was a terrific atmosphere with the sound of the waves crashing way down below and the haar rolling in from the sea. At one point we could hear the onomatopoeic calls of the kittiwakes *Rissa tridactyla* echoing around the cliffs though they could not be seen.

Our walk was part of the Berwickshire Coastal Path from Cockburnspath to Berwick-upon-Tweed 28.5 miles/45km. The section we undertook was 3.5 miles/5.63km with magnificent cliffs, and though visibility was poor, we were still able to appreciate stunning scenery with amazing rock formations. The coastal geology is of Silurian greywackes, German for grey rock, of the Hawick Group which formed on the sea bed some 440 million years ago. These rocks were formed when earthquake shocks set off large underwater avalanches of sediment-laden water rapidly down slopes, turbidity flows, at the edge of continents. Over a vast period of time the sediment hardened and the Iapetus Ocean narrowed due to tectonic plate movements. Eventually, for the first time, Scotland and England met with the subduction of England beneath Scotland. Scotland came out on top! It was this movement that caused the greywackes to become so intensely folded and faulted.

We found many plants all along the route. At Fancove Bay, an idyllic cliff top area, the species you would expect to see in such a habitat were mostly found here. It is the highest point on this section of the coastal path and where we stopped for lunch. The highlights were the early-purple orchids *Orchis mascula*, of which there were many along the route, as well as meadow saxifrage *Saxifraga granulata*, kidney vetch *Anthyllis vulneraria*, burnet-saxifrage *Pimpinella saxifraga*, carline thistle *Carlina vulgaris*, cowslips *Primula veris* and common dog violets *Viola riviniana*.

Here were also seen the almost fully grown larvae of the dew moth *Setina irrorella*. This is a nationally scarce medium-sized, distinctive yellow/orange moth that is on the wing during June and July. The males fly in the afternoon sun, from dusk and again at dawn.

There are 12 Bronze Trail Markers along the Berwickshire Coastal Path that you can take rubbings from. One was seen at Fancove Bay.

Cowslips and primroses *Primula vulgaris* had hybridised with the resulting much more robust and colourful progeny, false oxlip *Primula x polyantha*. One cliff-side was a stunning sight being

completely covered in primroses.

Some of the other plants along the route were thrift *Armeria maritima*, sea campion *Silene uniflora*, field forget-me-nots *Myosotis arvensis*, greater stitchwort *Stellaria holostea*, mayweed *Tripleurospermum* sp., field pansy *Viola arvensis*, common sorrel *Rumex acetosa*, bush vetch *Vicia sepium*, large carpets of common scurvygrass *Cochlearia officinalis*, red campion *Silene dioica*, and common bird's-foot trefoil *Lotus corniculatus*. There were also three species of plantains; ribwort plantain *Plantago lanceolata*, buck's-horn plantain *P. coronopus* and sea plantain *P. maritima*. We found spring squill *Scilla verna*, unfortunately not in flower, at the only site known in Berwickshire. A plant seen on a large area of set-aside, that had us all stumped was later identified as sea radish *Raphanus raphanistrum*, an extremely bristly yellow crucifer.

Bird sightings were not as many as on the recce but the skylarks *Alauda arvensis* were, unbelievably in the dense haar, singing their little hearts out. Meadow pipits *Anthus pratensis*, rock pipits *A. petrosus* and gannets *Morus bassanus* were also seen. The highlight species was a pair of magnificent ravens *Corvus corax* with an almost adult young flying back and forth close to the cliff edge giving excellent views.

In a tiny burn very pale coloured common frogs *Rana temporaria* and fresh water shrimps, possibly *Gammarus pulex*, were observed.



The only fungus found was a rust, *Puccinia violae* on common dog-violet.

The grand finale was the unexpected sight, in Eyemouth Harbour, of a Tall Ship with a French flag by the name of 'Flying Dutchman, Amsterdam'. Very impressive! After a refreshing break for a coffee and cake in Eyemouth we managed, with just a few minutes to spare, to catch the bus back to Burnmouth. A surprisingly successful outing despite the unpromising conditions.

Sarah-Louise Davies

Bowden Hill NS993744

10th May 2016

Leader: Kathy Buckner

A small but enthusiastic group of NATS met at the Cockleroy car park for an afternoon excursion to Bowden Hill. After walking through pine woods we circled the base of Cockleroy and traversed across open farmland to Bowden Hill. There were plenty of insects to be found including a rove beetle *Staphylinus erythopterus*, 7-spot ladybirds *Coccinella 7-punctata*, orange tip *Anthocharis cardamines* and large white *Pieris brassicae* butterflies, bees and gorse shieldbugs *Piezodorus lituratus*. Bees included the solitary bee, *Andrena scotica* and numerous common species of bumblebees – all queens: *Bombus terrestris*, *B. lucorum*, *B. pascuorum*, *B. lapidarius* and *B. pratorum*. An ant nest under a rock revealed the intricate terracing of their colony. Bird observations included whitethroats *Sylvia communis*, willow warblers *Phylloscopus trochilus*, swallows *Hirundo rustica* and lapwing *Vanellus vanellus*.

Kathy Buckner - with thanks to David Adamson for notes on our observations

Gullane to Yellowcraig NT475831

14th May 2016

Leader: Peter Leach

Recent excursions to coastal sites have usually involved wind, rain and limited visibility but today was an all-too-rare warm and balmy spring day, enjoyed by nine members.

The excursion started in the car park above Gullane beach and took a path amongst sea buckthorn *Hippophae rhamnoides* and occasional conifer plantations, both of which provided good cover for birds. In the first kilometre we heard, grasshopper *Locustella naevia*, willow *Phylloscopus trochilus* and sedge *Acrocephalus schoenobaenus* warblers, as well as blackcap *Sylvia atricapilla*, whitethroat

S. communis and chiffchaff *Phylloscopus collybita*. A period of observation by some members located the nest site of the grasshopper warblers. Invertebrates were also found, including 10-spot *Adalia 10-punctata* and 2-spot *A. 2-punctata* ladybirds.

Our emergence onto the beach and progress onto the first of several rocky headlands revealed our first sea birds, the most notable of which were sandwich terns *Sterna sandvicensis* feeding offshore and many eider ducks *Somateria mollissima*.

A visit was made to the recently excavated remains of Saint Patrick's chapel, where spring vetch *Vicia lathyroides* and early forget-me-not *Myosotis ramosissima* were evident, shortly after which two roe deer *Capreolus capreolus* were seen grazing in the dunes adjacent to Muirfield golf course. They were both thought to be males, as Muirfield doesn't encourage females!

Botanical interest was maintained throughout the walk with a good selection of spring and coastal plants, most notable of which was sea beet *Beta vulgaris* ssp. *maritima*.

As we approached Yellowcraig we were joined by David Wild, East Lothian Council's Countryside Ranger for Yellowcraig and Archerfield. David was able to give us a further insight into the local geology and wildlife and his contribution was greatly appreciated.

The excursion finished at 4.00 pm with ice cream and a feeling of great satisfaction.

Thanks to Jean Long for her assistance. Vladimir Krivtsov and Ptolemy McKinnon returned to Gullane along the John Muir Way and are thought to have arrived safely.

Peter Leach

Craigmillar Castle Park NT279710

18th May 2016

Leader: John Palfery

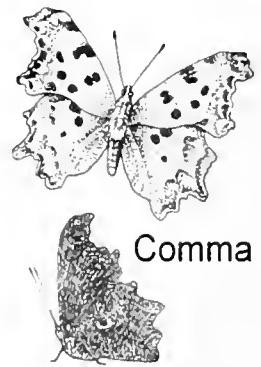
On a warm, humid afternoon eleven of us walked from Bridgend Community Allotments through the 1997 plantation of 40,000 trees, and by-passed Hawkhill Wood to descend to the Sustainable Drainage Scheme (SuDS) beside the Niddrie Burn and east of the new Royal Infirmary. We avoided the diggers and dumper trucks which were laying a new cycle path across the open hillside. After spending time birdwatching around the SuDS, we retraced our steps and explored the older woods immediately west of the Castle. John was our ornithological expert and Patrick Chaney contributed his local knowledge of the botany and the history of the Castle area. Although we must only have covered some 2 miles or so, the walk took a full three hours.

The future management of the 1997 woodlands will, in part, be funded by a legacy left to the Council for that purpose. There is a great variety of native tree species and, as the woods mature, their wildlife interest should improve. Today we heard the very different songs of chiffchaff *Phylloscopus collybita*, willow warbler *P. trochilus* and blackcap *Sylvia atricapilla*. As we left the woods and crossed the scrubby grassland above the SuDS their songs were replaced by the harsher notes of whitethroat *Sylvia communis* and sedge warbler *Acrocephalus schoenobaenus* which, along with reed bunting *Emberiza schoeniclus*, were present in good numbers. We saw swallows *Hirundo rustica* but not the swifts *Apus apus* or sand martins *Riparia riparia* that had been present on Sunday's recce. John explained that the lesser black-backed gulls *Larus fuscus*, which we were watching, were probably summer visitors, having spent the winter in the Mediterranean area. They were accompanied by a herring gull *Larus argentatus* and a leucistic carrion crow *Corvus corone*. There are old red sandstone quarries around Craigmillar Castle. Some of these are in the woods west of the Castle, and Patrick led us to a rare plant growing in two small patches near one of these quarries. Mossy sandwort *Arenaria balearica* was present on the hill as long ago as 1942, and previously covered a larger area than now. When the five-petalled flowers on their short stems were absent, their tiny leaves could easily be mistaken for thallose liverworts.

John and I had mistaken leaves of another plant on our Sunday visit, casually dismissing it as a bamboo. Patrick corrected this by showing that it was spineless butcher's broom *Ruscus hypoglossum*, which Plant Life of Edinburgh and the Lothians listed as being rare, and found in a quarry in Craigmillar. For good measure he took us to see the more familiar butcher's broom *Ruscus aculeatus*, which has much smaller leaves and is a more upright and darker plant. Both species

produce tiny flowers on 'cladodes', which are flat stems rather than true leaves. Other introductions found in these old woodland quarries were box *Buxus sempervirens*, Oregon grape *Mahonia* sp., and a cowslip *Primula veris* with deep orange flowers that Frances pointed out to us. A comma butterfly *Polyommatus c-album* was much admired when it came to a full stop. There were also orange tips *Anthocharis cardamines* and small tortoiseshells *Aglais urticae*, and a few queen bumblebees including the first of the cuckoo species *Bombus sylvestris*. While searching for gorse shieldbugs Jean Long found a chain of shieldbug eggs. All in all, a very pleasant afternoon.

David Adamson



Long Summer Excursion to Pitlochry Area 20th - 24th May 2016

Black Wood of Rannoch

21st May 2016

Leaders: Rob Cope and Graeme Findlay

Nine Nats, four guests and our leaders met near Black Wood Cottage on the south shore of Loch Rannoch. Rob had worked for the Forestry Commission for many years, latterly with special responsibility for the Black Wood. Graeme was his successor in this post. Rob told us much of what follows in this article.

Scots pine *Pinus sylvestris* is found from Spain and Scotland to Russia. In Scotland the Black Wood of Rannoch pines form part of the 'south-central' group, which is genetically distinct from other Scottish populations. Some beetle species which only inhabit dead wood, and which do not readily disperse, are found in the Black Wood and in a very small number of other ancient woods. Had the woodlands been completely removed, the beetles would have disappeared. Their existence is evidence that some forest has covered this site for a very long time. The forest's persistence is partly due to the poverty of the site: the north-facing, infertile, glacial debris on which it grows is of low value for any other uses. However, much of Highland Scotland shares these attributes but has lost its forest cover. Another factor in the Black Wood's survival is remoteness: it has always been costly and difficult to fell and transport timber from the south shore of Loch Rannoch to sawmills.

This last factor did not deter the York Buildings Company from digging two canals in the wood and using these to transport logs to Loch Rannoch. From there the logs were to be floated to the rivers Tummel and Tay, being intercepted before they reached Perth. This proved unsuccessful: some logs reached Dundee and others washed up in Holland. Thankfully the York Buildings Company ceased trading before it could destroy all of the forest.

Many trees were felled to satisfy the demand for timber in the two world wars, yet some of the forest survived. More recently a neighbouring estate owner, whose massive wealth is in inverse proportion to his respect for his surroundings, attempted to follow Mr Trump's example and build a vanity golf course in part of the forest. On this occasion the Scottish Government paid some attention to the environmental groups opposing the project, which did not proceed after failing to receive planning consent.

Over-grazing by red deer *Cervus elaphus* prevents tree regeneration. Therefore deer have been culled and at least one deer exclosure has been created. As a result pines of all ages, from seedlings to veterans of around 300 years old, are now found in the forest. The old trees tend to be of spreading, parkland shapes. Younger trees grow relatively tall and straight in their attempts to compete with their neighbours for the limited woodland light.

The interplay between growing conditions and genetics was well illustrated by the 'potato patch'. Shortly after the Forestry Commission acquired the Black Wood in 1954, potatoes had been planted in a cleared area, probably in an attempt to clean the patch of weeds prior to planting young trees. The potatoes were never harvested, but no trees were planted either. Instead the seeds from a nearby 'granny' pine germinated in the cleared area. The potato patch's crop is now a stand of tall, straight pines that resembles a semi-mature plantation. Those trees that fall behind the others will die, allowing natural thinning to take place as the forest develops.

In another part of the forest is the deer exclosure, created in the late 1940s. The Forestry

Commission hoped that pine seeds would naturally germinate in the absence of grazing pressure, and that a pine forest would develop without incurring the cost of preparing the land and planting the trees. However the outcome is very different. It is difficult to move around in the enclosure because the spindly birches and rowans grow close together. Any pines struggle to compete with these faster-growing species under such conditions. The enclosure's ground cover is mainly cowberry *Vaccinium vitis-idaea*, whereas blaeberry *Vaccinium myrtillus* dominates the surrounding area.

The forest is managed to allow natural regeneration as much as possible. When trees die they are not felled, but are allowed to stand as dead wood. In a natural forest as much as 40% of the timber is dead, and biodiversity thrives where dead timber is plentiful. The most obvious evidence of this wealth of life in dead wood is in the holes drilled by woodpeckers and bored by invertebrates. As well as pine, birch *Betula pubescens* and rowan *Sorbus acuparia*, there are a few juniper *Juniperus communis* trees in the forest. Aspen *Populus tremula* and alder *Alnus glutinosa* grow by the loch. Bracken *Pteridium aquilinum* grows in an open area, but does not spread below the surrounding pines. Nor does it grow in the shade of a rowan in the middle of the glade. Perhaps bracken only becomes an invasive pest when a woodland is over-grazed, or loses its tree cover through burning. Although fire is natural in pine woods, a large fire could totally destroy the Black Wood. Therefore this is one natural process that is not tolerated here.



This forest is home to many rare species. However the capercaille *Tetrao urogallus* has been lost altogether, despite fences being made 'caper-proof'. Low survival of caper chicks, described by Rob as being like fluffy table tennis balls, appears to be the reason for this loss, and Tayside may now have no more than 20 birds. Caper counts are no longer made as there are so few birds left to count. Some have turned up in unlikely places, including in village streets, in a desperate search for mates. This is a species on the brink of extinction in the central Highlands.

The Black Wood is one of Scotland's most important forests, both for wildlife and for learning how a forest works when human interference is minimised. While visitors are welcome, it lacks the way-marked trails for cyclists and walkers that are found in nearby Allean Forest. This does not explain why we met a couple who were searching for the famous Fortingall Yew tree in the Black Wood of Rannoch. I hope they found it eventually.

David Adamson

Loch Moraig

22nd May 2016

The view from the top of the Glen Fender road was magnificent on this sunny morning. Skylarks *Alauda arvensis* seemed to be singing everywhere and were easily spotted sitting on heathery tumps and doing their song flight. There were also a few meadow pipits *Anthus pratensis* and a pair of wheatear *Oenanthe oenanthe*. The only snag was we were not meant to be there. Half the party had made a detour and as a result we arrived at Loch Moraig a little later than planned.

Previous Nats visits have been 'alpine' meetings in late July, when there were enough plants in flower on roadside verges and around the loch to occupy a whole day. This year we were too early to find many mountain plants in flower. The verges were green with plants such as alpine bistort *Persicaria vivipara* and common rock-rose *Helianthemum nummularium* just in leaf.

Our first view of the loch brought the cameras out. A mass of bog bean *Menyanthes trifoliata* and marsh marigold *Caltha palustris* were growing in the water which sparkled in the sunlight. Orange tip butterflies *Anthocharis cardamines* flitted around. The only birds on the loch were mallard *Anas platyrhynchos*, tufted duck *Aythya fuligula* and the dreaded Canada goose *Branta canadensis*. But is that an osprey *Pandion haliaetus* nest?

We set off on the track above the loch which leads to Carn Liath, the southernmost of the Beinn a'

Ghlo range, with beautiful views all round. Above the track is heather moorland where lots of wood anemone *Anemone nemorosa* were in flower.

On the hillside below us were the remains of an old settlement. The first OS 6-inch map (Perthshire 1867 sheet XX1) shows it as Cean na Moire, a head-dyke Township consisting of four farmsteads and an enclosure, all within a head-dyke. Only the north westerly farm Ruidh Moraig appears to have been in use by the time the survey was done. Of its five buildings and three enclosures a number of walls are still standing.

Leaves of sundew *Drosera rotundifolia* and a few flowering plants of butterwort *Pinguicula vulgaris* along with various sedges *Carex* spp. were noted in wet flushes near the track. Mountain pansy *Viola lutea* flowered near our lunch stop.

In the afternoon we headed a little way downhill. On the way fir clubmoss *Huperzia selago* and Scottish asphodel *Tofieldia pusilla* were added to the list. Once back by the loch a concerted effort was made to locate the elusive osprey nest. Must have been a mirage.

A lovely walk in the hills. Thank you Joanie McNaughton for birds and Sarah Adamson for historical research.

Lyn Blades

Glen Tilt

23rd May 2016

Six of us met at the Glen Tilt car park, by the Old Bridge of Tilt. David and Sarah Adamson's son Patrick and his girlfriend, Alice Ambler, who had been with us up till today, had gone to meet their own friends. It was lovely having them with us.

Surrounded by mixed woodland, sunlight dappling through the canopy, we were greeted with wood warbler *Phylloscopus sibilatrix* song all around. Very quickly David found a beautiful and freshly emerged northern cockchafer *Melolontha hippocastani*, a brilliant start to the day. Then two 'gardens' were seen: garden warbler *Sylvia borin* singing loudly from a hazel tree *Corylus avellana* and a garden bumblebee *Bombus hortorum*.

The path was bordered by a drystane dyke covered in lichen, mostly *cladonia* sp, with the lush green Home Farm pastures beyond. A wren *Troglodytes troglodytes* busied itself gathering insects on the dyke and birdsong was everywhere: song thrushes *Turdus philomelos* vying with each other across the tree tops, willow warbler *Phylloscopus trochilus*, chiffchaff *P. collybita* and long-tailed tits *Aegithalos caudatus* contact-calling 'trrup trrup' as they flitted through the trees. We found red squirrel *Sciurus vulgaris* evidence, half gnawed cone 'cores'. Here the woodland changed to mostly birch *Betula* sp. and some rowan *Sorbus aucuparia*, the floor carpeted in ransoms *Allium ursinum* and dog's mercury *Mercurialis perennis*, with the tall spike of the male flower beginning to show. Several species of fern were found: brittle bladder fern *Cystopteris fragilis*, golden male fern *Dryopteris affinis*, oak fern *Gymnocarpium dryopteris* and beech fern *Phegopteris connectilis*. Moving on, larch *Larix* sp. became the predominant tree, some with resin dripping down the trunks, like a waterfall. I took a photo of a larch sapling growing out of a tree stump; I wonder if it will continue to grow and how tall it might get.

The glen opened out into a mixture of rough pasture, heathland and conifer plantations, the realm of cuckoo *Cuculus canorus* and raven *Corvus corax*, both of which were heard on the other side of the river, in fact several cuckoos calling to each other. Yellow mountain saxifrage *Saxifraga aizoides* was not yet in flower and a rove beetle *Staphylinus erythropterus* crossed our path.

Stopping for lunch looking up the Tilt towards Meall Reamhar and Carn a' Chlamain, we watched a female orange tip *Anthocharis cardamines*, a yellow moth and snipeflies *Rhagionidae* on birch. The track took us past the rifle range, back into the woods with hazel *Corylus avellana* coppicing used for the manufacture of bobbins in the Manchester cotton mills. There was not much in the way of fungus but we did see pleated inky cap *Parasola plicatilis*, pretty to look at but inedible. Back at the



Butterwort

riverside we crossed over Gilbert's Bridge, from where we looked down on the narrow rushing torrents between the huge boulders and impressive peaty-coloured deep pools. Norway spruce *Picea abies* was the predominant tree. Who was Gilbert we asked ourselves? I later gleaned the following: 'Gilbert Stewart was the 'last man out' in the '45 rising. He had a croft near the bridge. The buildings were still recognisable 60 years ago but almost all trace of them is now gone. However some of his rhubarb *Rheum rhabarbarum* is still growing over 250 years later!' Back into mixed woodland, we passed an information board for small cow-wheat *Melampyrum sylvaticum*, a nationally scarce annual. The UK distribution consists of only 19 sites, mostly in Scotland, and only five populations have more than 500 individuals. A hemiparasite, good hosts are birch, rowan and various vetches and it likes to be reasonably close to water. The seeds are exceptionally large for an annual and are adapted for dispersal by wood ants *Formica* sp. A fence had been erected to protect the population from trampling boots and nibbling animals. In 2012 this was the largest remaining population in Scotland, with around 10,000 plants.

The last excitement of the day for me was a large insect that nearly hit me in the face. It landed in some long grass on the verge and was quite happy to be photographed at very close range. It looked newly emerged and I later identified it as black-spotted longhorn *Rhagium mordax*, locally common. A very handsome beastie indeed.

At the car park, in Nats' time-honoured fashion we agreed to re-visit the Watermill in Blair Atholl for tea and scones.

Joanie McNaughton

Cluny House Gardens

24th May 2016

I find it hard to leave the Aberfeldy/Pitlochry area without a visit to this woodland garden. We were soon spotted by John Mattingley, the owner. He pointed out a flock of siskins *Carduelis spinus* and directed us to the better red squirrel *Sciurus vulgaris* parts of the garden. Alice Ambler was delighted to have close views of so many squirrels. Later on, John outlined some new visitor management techniques employed. He commented on the conflict between loving their garden and its visitors, who are a necessity. He is happy to let plants self-seed but dislikes the incursion of cars and feet straying from well-defined paths. Over the years there have been changes and one particular champion tree, a Wellingtonia *Sequoiaadendron giganteum* standing at 33.5m with a girth of 11m, is now treated differently from the other trees, many of which have their own stories. This tree has its own information board and defined path and he asks visitors not to punch the tree. All the while, David Adamson engaged Wendy Mattingley in conversation about the merits of allowing few-flowered leek *Allium paradoxum* to take a hold.

Our group of eight followed the numbered trail leading us to the bottom and back up to the top of the steeply sloping garden. The *Primula* spp and *Aquilegia* spp were flowering in a variety of forms as well as some of the *Rhododendron* spp. There was the robust golden David's saxifrage *Chrysosplenium davidianum* tumbling down many of the banks. The paths through the garden change, as does the laminated guide taking you to the highlights. This time it referred to the recent climatic conditions and their possible impact on the plants due to a water shortage.

After this visit the group split with some travelling along the Tay to look for signs of beaver activity. Although they found some evidence no actual beavers were seen.

Sarah Adamson

Duns Castle

28th May 2016

Leader: Murray Henderson

The coach trip from Edinburgh took under an hour and a half to arrive in Duns. After using the facilities in Duns library we met Murray Henderson, our guide for the day. Murray has great local knowledge, and told us about the history of the estate as well as its wildlife.

We took the path beside the Hen Poo, stopping to watch a redstart *Phoenicurus phoenicurus* on a

lochside tree. Redstarts are regular summer visitors to this part of the estate. On the loch itself were mute swans *Cygnus olor* and cygnets, coots *Fulica atra* and moorhens *Gallinula chloropus*, and growing on its edge was the common clubrush *Schoenoplectus lacustris* and the small reedmace *Typha minima*, as well as greater spearwort *Ranunculus lingua*.

In the mature woodlands were the usual warblers, chiffchaff *Phylloscopus collybita* and blackcap *Sylvia atricapilla*, with the ubiquitous buzzard *Buteo buteo* and increasingly common great spotted woodpecker *Dendrocopos major*. Most bumblebees were queens; at one point we paused to watch a queen forest cuckoo bumblebee *Bombus sylvestris*. After passing the Mill Pond we turned left onto the Colonel's Walk, eventually crossing a footbridge and climbing up some steps. Here we were pleased to find common wintergreen *Pyrola minor*.

After lunch we found some yellow rattle *Rhinanthus minor* that David Long and others had planted in a meadow. On bushes in the same meadow were the gorse shieldbug *Piezodorus lituratus* and a sexton beetle *Oiceoptoma thoracicum*. Other insects found today were a large cranefly *Tipula maxima*, cream-spot *Calvia 14-guttata* and 7-spot *Coccinella 7-punctata* ladybirds. Two butterfly species were seen; green veined white *Pieris napi* and orange-tip *Anthocharis cardamines*. From this meadow we walked through St Mary's Glade. Having Murray with us, we were able to turn off into the woodland which is not open to the public. As we approached the gardens of the castle we stopped to look at purple toothwort *Lathraea clandestina*. Near here there had been some recent tree-felling and there was a lot of sawdust and woodchip – the perfect habitat for some large specimens of *Peziza micropus* (identified later by Roy Watling).

Throughout the day David Long helped identify the bryophytes. These included the uncommon *Ulota drummondii* with its pale calyptra teeth, plus four species of *Orthotrichum*.

On arriving at the lawn we were able to admire the gardens and the castle. Just after leaving here a spotted flycatcher *Muscicapa striata* was seen near the south end of the Hen Poo. We then headed along the driveway and down into the town. Before leaving Duns we split into two parties, each visiting separate tearooms. Thanks to Murray Henderson for leading us and to Jean Long for her meticulous preparation.

David Adamson and Jean Long

Park Farm, Union Canal NT029771

1st June 2016

Leader:- Lyn Blades

We had a lovely sunny afternoon for our walk by the canal from Park Farm towards Winchburgh. Unfortunately, Jackie Muscott, who had intended to lead this excursion, had back problems and was unable to join us. So we did not have the benefit of her local knowledge.

On the first part of the route we were in the open, with a light breeze stirring the mass of cow parsley *Anthriscus sylvestris* that lined the path. Only a few orange tips *Anthocharis cardamines* and small white butterflies *Pieris rapae* were on the wing. Once we reached the shelter of the trees we found a four-spotted chaser *Libellula quadrimaculata* hanging on the vegetation by the canal.

The huge leaves of water dock *Rumex hydrolapathum* were noted on the edge of the canal and flowering plants of sanicle *Sanicula europaea* seen along the side of the wood.

Philpstoun Bing produced the most interesting plants. We found the small white crucifer - wall whitlow grass *Draba muralis* and deadly nightshade *Atropa belladonna* which are uncommon in the Lothians. Both are introductions now well established on the bing. Under the trees there were more than thirty plants of common twayblade *Neottia ovata* just coming into bud.

As we turned to head back we encountered some interesting insects. A number of solitary bees *Andrena scotica* were flying in and out of small holes in a stone wall. And interesting to us, but unfortunate for the bees, other small yellow and black striped bees were doing the same. These were *Nomada marshamella* which parasitise on the solitaires laying their eggs in the nests.

Finally we found a rather splendid longhorn beetle *Rhagium bifasciatum* on a nettle.

Then it was about turn and retrace our steps to Park Farm.

Lyn Blades

Dalkeith Country Park NT334677

4th June 2016

Leader: Rob Wallace

The main focus of this walk was insects, being Rob's particular interest. The park is famous for its very old oak trees, and having met at the Park entrance and made our way to the North Esk at Montague Bridge, we followed the river until arriving at its confluence with the South Esk. We then crossed the North Esk, and followed a series of paths that took us by the estate's boundary wall and a former tree nursery back to the Montague Bridge. The sun shone, and the easterly breeze did not detract from a very pleasant outing for the sixteen who attended.

After the outing Rob produced a fairly comprehensive list of insects that he had recorded. These included a couple of small longhorn beetles, *Alosterna tabacicolor* (which Rob had not expected to find) and *Grammoptera ruficornis*, the weevils *Phyllobius argentatus* and *Otiorhynchus singularis* and the devil's coachhorse *Ocypus olens*. We also found at least four species of soldier beetle and a click beetle.

Moving away from beetles, we recorded four common bumblebee species, plus a solitary bee *Andrena haemorrhoa* and its parasite *Nomada ruficornis*, six species of butterfly and some bugs, ichneumons and flies. We even noted at least one spider, *Araniella cucurbitina*.

Despite the habitat appearing to be suitable for birds such as redstart *Phoenicurus phoenicurus* and flycatchers *Muscicapa striata*, the ornithology was relatively disappointing with no notable species seen. This may be due to insects being less abundant than in the past, despite a wide range of species being found on the day.

Thanks to Rob for leading an outing in a familiar location, but studying an aspect of natural history that we often overlook.

David Adamson

Callendar Estate NS882791

8th June 2016

Leader: Wilma Harper

The starting point for this excursion was Falkirk High Station and five of us took the train from Edinburgh. The plan was to explore the area to the west and south of the railway and canal. This would take us into new territory away from the previous visits to Callendar Wood and Park which lie to the east.

Coal mining, coke works, fire clay bricks and their associated trackways were evident at the site. The owners also had their ups and downs. The Livingston family were Jacobites and the Battle of Falkirk Muir was fought here in 1746. By 1783 Callendar Estate belonged to a Willie Forbes of whom it was said 'His energetic land improvement policies generated considerable revenues for himself and a good deal of hostility among his tenantry!' The current owner Captain Forbes, by contrast, has embraced the challenges and opportunities of the location, working with local people and businesses to provide walks, cycle tracks and a cafe which surprisingly we did not visit. The woods are managed for fuel and timber. The area might be described as a post-industrial, peri-urban landscape which maybe doesn't sound very appealing but has given rise to a diversity of habitats and features of historic interest.

From the station we went under the railway and over the Union Canal to follow the former formal drive to South Bantaskine house of which only the walled garden walls remain. The meadow beyond seemed a possible location for butterflies and despite the cool breeze, we saw small heath *Coenonympha pamphilus*, painted lady *Vanessa cardui* and orange tip *Anthocharis cardamines*.

A sheltered patch of wild raspberries in flower was humming with bees, maybe 50 in total, a mix of garden *Bombus hortorum* and wood cuckoo *B. sylvestris* bumblebees. From there the path took us along the side of a wood where a little pond yielded damselflies; blue tailed *Ischnura elegans*, common blue *Enallagma cyathigerum*, red *Pyrrhosoma nymphula* and a possible dragonfly. With a small group walking at moderate pace we got to the older part of the wood with some

attractive gnarled beech *Fagus sylvatica*, oak *Quercus* sp. and birch *Betula* sp. We were hopeful when chirping was heard from a hole in a tree that we had found a woodpecker or nuthatch nest but although all we saw was a head peaking out, we concluded it was most likely to be starlings *Sturnus vulgaris*.

The route then took us down through the woods to join the canal, walking on the towpath and then crossing to join a path along the 'wrong' side. Plants of note included water dock *Rumex hydrolapathum* a speciality of the Union Canal, tufted loosestrife *Lysimachia thyrsiflora* and northern marsh orchid *Dactylorhiza purpurella*.

This brought us back to the station and the train home. For a summer afternoon outing we had covered a decent distance in an area new to most of the group.

Wilma Harper

Isle of May Boat Trip from Anstruther

11th June 2016

Leader:- Joanie McNaughton

The Nats last visited May Island eleven years and a month ago. A good day weather-wise with relatively calm waters for the crossing, we arrived at Kirkhaven on the east side of the island, as we approached watching puffin *Fratercula arctica*, guillemot *Uria aalge*, razorbill *Alca torda* and other sea birds fishing. It is thought that the island name comes from the Norsemen who called the island Maa Oy, which is Norse for gull island. The island is home to Scotland's oldest bird observatory and the second oldest, after Skokholm, in Britain.

Immediately on landing we were greeted by arctic terns *Sterna paradisaea*, wheeling around our heads. Hats-on time, especially when close to their nest sites as they will attack with their sharp beaks and are known to draw blood. The NNR Warden, David Steel, welcomed us with a short introduction, telling us that this was their Seabird Weekend commemorating 60 years as an NNR, with members of staff and volunteers being posted at important points round the island to explain what was happening and what to look out for. This was also the 200th anniversary of the construction of the Main Light, replacing the Beacon and associated buildings on Fluke Street. He went on to outline some changes on the island, highlights during the year, ringing and ongoing work with volunteers.

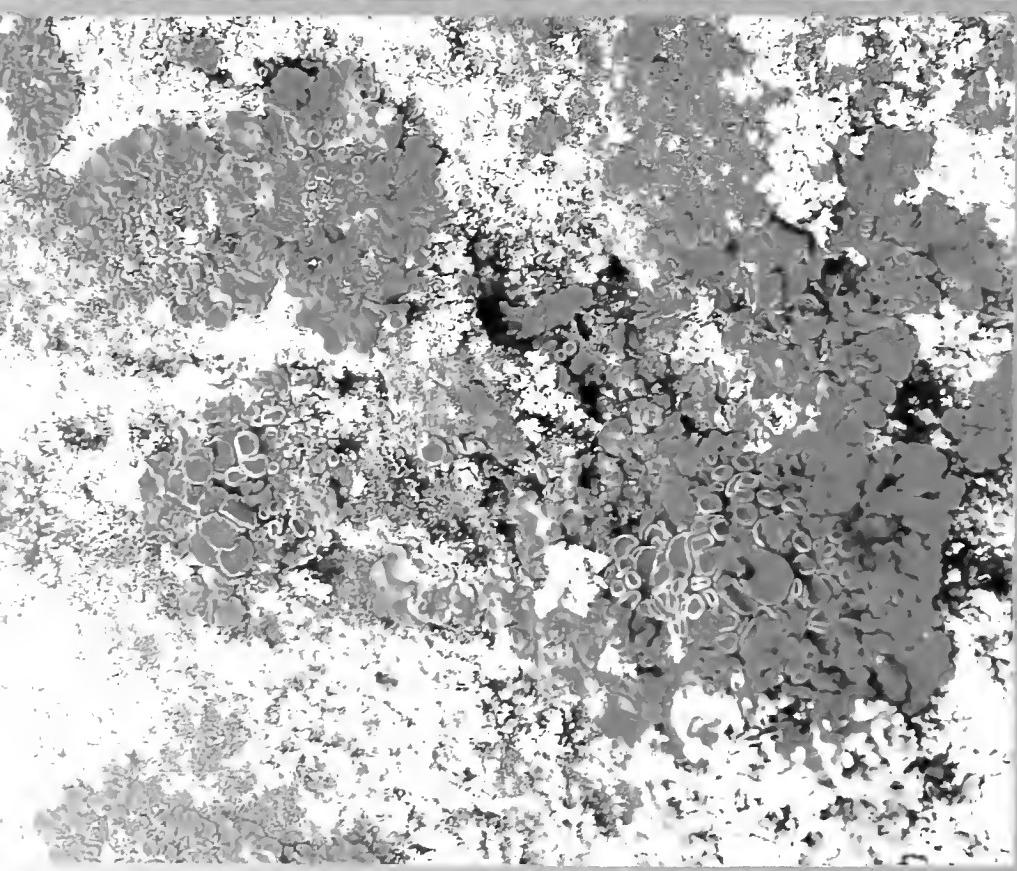
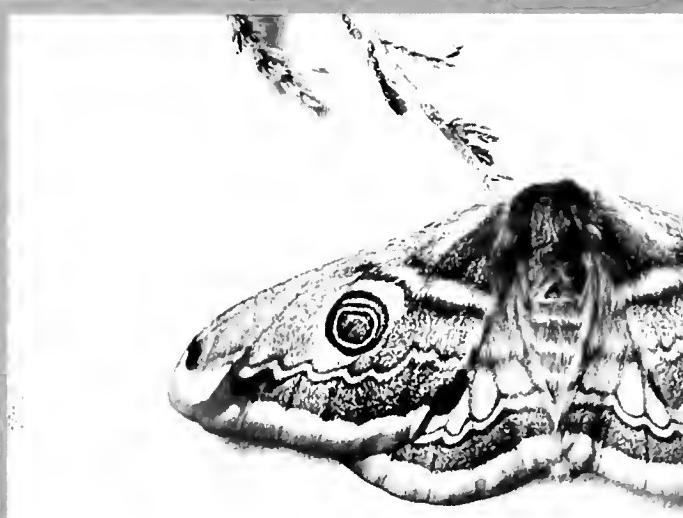
The group of seven split and some headed towards the visitor centre, along Haven Road passing Main Light and ancillary buildings, Macleod's Path and Burnett's Leap down to Altarstanes on the west shore. Along this route we passed a very defensive lesser black-backed gull *Larus fuscus* aggressively defending its chicks. I counted four, but there could have been more, their camouflage being so good against the lichen-covered rocks. We saw two pairs of eider *Somateria mollissima* sitting on nests both very close to the path, and on the path itself lay a broken eider egg, possibly predated by the nearby lesser black-backed gulls.

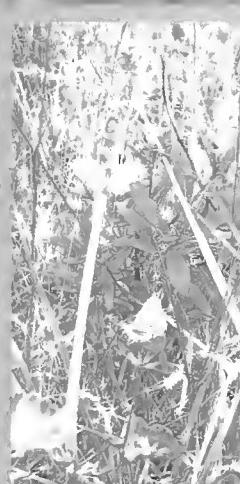
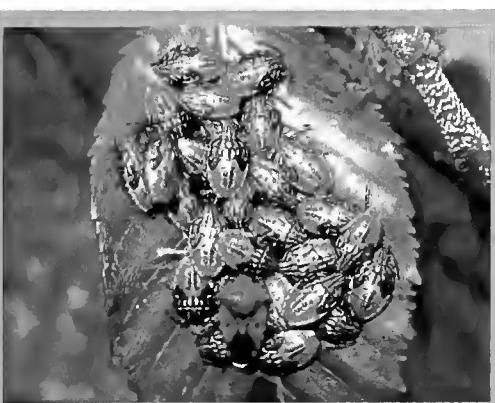
Here we saw some of the improvements: the south-facing bed of solar panels, now the island's main source of power, backed up by a new generator brought in by helicopter to replace the outdated kit, and the newly-constructed tern terraces. After nettles were cleared, shingle was laid on tarpaulin to prevent regrowth and nesting boxes placed atop. The first arctic tern eggs were laid on 21 May, three days earlier than average. Good news was that one pair of sandwich terns *Sterna sandvicensis* was recorded at our time of visit, not having nested here since 2004. Hopes were high for more and, post visit, 21 nesting pairs were counted on the new terraces.

Alongside the path down to Altarstanes, the island's alternative landing place, the area was carpeted with sea campion *Silene uniflora*, sea milkwort *Glaux maritima* and white thrift *Armeria maritima*. We had lunch here, watched from the cliffs above by shags *Phalacrocorax aristotelis* and their chicks, puffins, guillemots, razorbills, kittiwakes *Rissa*











tridactyla, fulmar *Fulmarus glacialis* and a pair of rock pipits *Anthus petrosus* busying themselves gathering nesting material and food for chicks. Hauled up and in the sea were grey seals *Halichoerus grypus*, a not very flattering translation – hook-nosed sea pig. At this time of year there are only resident seals, but these are joined in the autumn by more pregnant females and bulls, the latter competing to mate with the resident females with sometimes spectacular fights.

After lunch we headed for South Horn via Palpitation Bay. While at the Mill Loch we watched a few lesser black-backed gulls bathing in the fresh water and eyeing up the eider chicks being led to water by their mothers. On reaching the cliffs at Lady's Bed, or Seabird City, auk, fulmar and kittiwake were seen to be sitting on nests, soaring, fishing and feeding the chicks.

Back at the boat, terns swooping and screeching over our heads as we boarded, we sailed close to the cliffs, the air and sea a mass of birdlife and grey seals hauled up on Maiden Rock, waiting for the tide to come in, past Bishop's Cove, out into the Firth and already thinking of cake and coffee and/or fish supper at Anstruther.

Joanie McNaughton

Balgreen to Slateford NT218724

16th June 2016

Leader: David Adamson

Four Nats met at Balgreen tram stop, first visiting Saughton Gardens and then following the John Muir Trail to the Water of Leith Centre at Slateford. The theme for the walk was bumblebees and they turned up in good numbers, despite the rain earlier in the day and the overcast and cool conditions.

Bees like raspberry *Rubus idaeus* flowers as much as we like raspberries. We stood beside a clump of raspberry canes near the tram stop and compared the small yellowish males of the early bumblebee *Bombus pratorum* with the much blacker workers of the same species. This species was abundant today, but will have all but disappeared by the end of July when most colonies will be over. The next most common bee on our walk was the tree bumblebee *Bombus hypnorum*. Until 2012 or 2013 this species was unknown in Scotland, but is an example of how quickly a species can establish itself if the habitat is suitable.

In Saughton Gardens we found workers of the red-tailed bumblebee *Bombus lapidarius* on chive flower-heads *Allium schoenoprasum*. Some were foraging for pollen and nectar, but others had tried to shelter from the earlier rain beneath the flower-heads and looked very damp and cold. On the chives there were also workers and males of the buff-tailed bumblebee *Bombus terrestris*, which, like the early and tree bumblebee species, normally emerges from hibernation in March.

Different bee species have different food preferences, and the most common species on the rhododendron flowers was the garden bumblebee *Bombus hortorum*. Most of them were workers, but we found at least one male. Workers of this species were also common on the pink *Lamium maculatum* flowers in the herbaceous border.

Once we left Saughton Gardens and followed the Water of Leith Walkway towards Slateford we saw fewer bees until we reached the allotments below Longstone. Between the walkway path and the river, bees were feeding on Russian comfrey *Symphytum x uplandicum*. The common carder bee *Bombus pascuorum* is one of the most widespread and common species in the UK, feeding on a wide range of flowers and surviving in most habitats. We admired the rich ginger colour of one that was resting on a comfrey leaf.

Although the main theme was bumblebees, we did pay attention to other aspects of natural history. Erica found a 7-spot ladybird *Coccinella 7-punctata* and Maggie pointed out a young dipper *Cinclus cinclus* in the river below Slateford. Nearby were grey wagtails *Motacilla cinerea* and a heron *Ardea cinerea* that kept a watchful eye on us before flying a short distance downstream. We all enjoyed the sight of a young long-tailed tit *Aegithalos caudatus* that perched on the allotment fence beside the path. As well as juvenile blue tits *Cyanistes caeruleus* and great tits *Parus major* being fed by their parents, we also saw house martins *Delichon urbica* and swifts *Apus apus* swooping low in search of insects.

The outing finished with a cup of tea and a blether in the Water of Leith Centre.
David Adamson

Helix Park NS903814

18th June 2016

Leader: Sarah Adamson

Eight of us met at Falkirk Football Stadium to explore Falkirk's Eco Park which aims to inspire healthy activity. The area was famous for its coal, iron and sawmills. These are mostly gone to be replaced by leisure facilities allowing physical activity in a 'natural' environment. The area is bisected by the Forth and Clyde Canal which connects with the River Carron under the gaze of the Kelpies, two massive steel horse heads. Within the area is a large sewage works which discharges into the Carron, at this point tidal, before flowing into the Firth of Forth. The Kelpies attract many visitors and their cars were queuing to park, while other families were enjoying the wet'n'dry play facilities. All this seems an unlikely start to a Nats outing. The promise of sunshine eventually came to fruition and after lunch we enjoyed the activities of animals happiest when warm and dry.

Walking briskly through the park the path took us alongside the Carron with large areas of reed-bed and into Langtees Community Woodland. The day was warming up and we were all spotting insects. We found a handsome yellow ghost moth *Hepialus humuli* and Erica Bright found a variety of caterpillars including those of small tortoiseshell butterfly *Aglaia urticae* on nettles. In the damp vegetation there were numerous damselflies; blue-tailed *Ischnura elegans*, common blue *Enallagma cyathigerum* and large red *Pyrrhosoma nymphula*. There was a pair of blue-tailed in a copulation wheel, the female showing *I. elegans rufescens* colouration. Ringlets *Aphantopus hyperantus* were the butterfly of the day. Lunch was eaten beside the Human Sun Clock, an iron sculpture reminding us of the history of Carron Valley's iron and steel production.

The sun was becoming more intense as we viewed the canal lock into the Carron and walked across the reflective concrete around the Kelpies visitor area.

We returned along the earlier route at a much slower pace. Briefly we left the park to visit some waste ground which led to an industrial area. Here we found northern marsh *Dactylorhiza purpurella* and common spotted orchids *D. fuchsii*, more ringlets and damselflies and added cinnabar moths *Tyria jacobaeae* and grasshoppers *Orthoptera* to the list. There were tiny birch catkin bugs *Kleidocerys resedae* which spend their entire life cycle on birch catkins *Betula* sp. At this stage circling buzzards *Buteo buteo* were noticed and stayed with us for the rest of the afternoon. Some of the group lingered to watch a wren *Troglodytes troglodytes* and a newly fledged family of willow warblers *Phylloscopus trochilus* being fed in a tree at the water's edge. Others sat on the board walk to watch a host of small creatures in the water below their feet. The next section of path was bordered by a developing wildflower meadow containing yellow rattle *Rhinanthus minor*, salad burnet *Sanguisorba minor*, wild carrot *Daucus carota* and bristly ox-tongue *Helminthotheca echioides*. During the day we saw many bumblebees, but surprisingly, not the tree bumblebee *Bombus hypnorum*. The buzzard activity continued when one was seen carrying what looked like a rabbit *Oryctolagus cuniculus*.

Our final stop was by the water sports lake occupied by birds while we ate our ice creams. The route for the day was planned using a Yellow Walk Map which presents Ordnance Survey maps for areas popular with visitors. The maps are laminated and fold small enough to fit into a pocket. This one covered Helix Park, Callendar Park and the Union Canal, all of which have been visited by the Nats this year. Future exploration could include the Falkirk Wheel area, Carron Dams, Antonine Wall, Denny and Larbert.

Sarah Adamson

Hunter's Bog NT271740

22nd June 2016

Leader: Patrick Chaney

Despite a forecast of rain, seven of us, including two very young, interested and diligent 'proto'

NATS turned up to explore Hunter's Bog. A pair of sand martins *Riparia riparia* was spotted whilst we waited outside the Information Centre before setting off for the bog.

Both common spotted orchid *Dactylorhiza fuchsii* and northern marsh orchid *Dactylorhiza purpurella* were in bloom, the latter in great abundance at the St. Margaret's Loch end of the site. Our main objectives were to find adder's tongue *Ophioglossum vulgatum* and celery-leaved buttercup *Ranunculus sceleratus*. The adder's tongue was soon spotted by Natalie Todman who has had a long association with these plants. I'm sure she knows every one of them individually including all their friends and relations. The celery-leaved buttercup was spotted by Neville Crowther who also found some marsh pennywort *Hydrocotyle vulgaris*. Sarah-Louise Davies found some yellow field cap *Bolbitius titubans* and pointed out the branched bur-reed *Sparganium erectum*. There was an abundance of false oat-grass *Arrhenatherum elatius* in flower much of which was infected with a parasite looking like ergot.

Insects included *Lepidoptera*, the small copper *Lycaena phlaeas*, small heath *Coenonympha pamphilus* butterflies, and latticed heath *Chiasmia clathrata* and clouded border *Lomaspilis marginata* moths. There were forest cuckoo bumblebees *Bombus sylvestris*, and birds included reed bunting *Emberiza schoeniclus*, chaffinch *Fringilla coelebs* and kestrel *Falco tinnunculus*. I hoped we might see the long-eared owls *Asio otus* which I had seen on three occasions since the 6th May, but it was not to be. We did however meet the park ranger and he confirmed their nesting location and that there were four chicks.

I had thought the name 'Hunter's Bog' indicated that it was a place where hunting took place, perhaps wild-fowling, and a 1764 reference to the 'Hunting Bog' reinforced this idea, but it turns out not to be so. The SNH website reports that: 'Despite 8000 years of human habitation in this area the name 'Hunter's Bog' may be more modern. John Hunter was Treasurer of the Canongait and Keeper of the Park from 1566-67. Mary, Queen of Scots, granted him a 19 year lease of this area, then called Grundles Myre, in return for draining the King's Meadow, roughly where Dynamic Earth stands today. So, in return for draining a bog, John Hunter was granted...a bog!'

Hunter's Bog was used as a rifle range from at least the 1830s until the 1950s. The area was first used for target practice by the castle garrison, and during the late 1880s it was used by the volunteer brigades of the Royal Scots. The range continued in operation until at least 1953, when it was still serving the Territorial Army. Discharged rifle rounds are still found there to this day. Natalie found one of them on our visit.

A most enjoyable afternoon, and the rain kept off.

Patrick Chaney

Torphin NT202679

29th June 2016

Leader: Douglas McKean

Six members and the leader met at the road end just past Torphin golf clubhouse where parking is possible and the bus terminus is fairly nearby. Adjoining the quarry gateway was a weedy patch with fiddlenecks and fat-hen, *Amsinckia micrantha* and *Chenopodium album* respectively. While awaiting arrivals we watched unconcerned brown warblers feeding right over our heads, possibly blackcaps *Sylvia atricapilla*. After 10 minutes we set off towards Easter Kinleith along the track by the huge quarry which was commissioned for its whinstone to build the ring road just a few decades ago. The quarry no longer has its original function but is used for making compost and storing gardening supplies and chopped wood for burning and is now fairly well screened by sycamore *Acer pseudoplatanus*, Norway maple *A. platanoides*, ash *Fraxinus excelsior*, hawthorn *Crataegus monogyna* and Italian alder *Alnus cordata*. There was lots of gorse *Ulex europaeus* on the slopes above us and here we witnessed yellowhammers *Emberiza citrinella*, linnets *Carduelis cannabina* and a family of whitethroats *Sylvia communis*. The path ran through a well grazed sheep pasture. But for the drizzly weather the view from here would have been spectacular from the bings of West Lothian to North Berwick Law and the Forth Bridges in the middle.

As the weather was inclement we branched off before Easter Kinleith and soon reached

Clubbiedean Reservoir with its access road on the north side and conifer wood on the other side. At the west end there were rafts of amphibious bistort *Persicaria amphibia* and floating leaves of broad-leaved pond weed *Potamogeton natans*. The margins were colonised by water horsetail *Equisetum fluviatile* and the marshy banks had lots of meadowsweet *Filipendula ulmaria*. To the west of the reservoirs are the remains of an ancient fort earthworks. We picnicked in the shelter of the wood and then carried on. The trees, mainly Scot's pine *Pinus sylvestris*, European larch *Larix europaea* and sycamore, were well spaced apart allowing for a dominant herb layer mainly of buckler *Dryopteris dilatata* and male ferns *D. filix-mas* with many rowans *Sorbus aucuparia* planted among the pines. We exited the wood and headed down the road for lovely views of cross-leaved heath *Erica cinerea*, in full flower near the summit of a steep ridge. Later we reached Torduff Reservoir with its precipitous cliffs clothed in gorse *Ulex europaeus* with a few junipers *Juniperus communis* among it. By the water's edge grew Burnett's monkey flower, *Mimulus x burnettii*. Various species of rose in white or pink were scattered along the way. A hybrid burnett rose with sprays of white was particularly attention catching, but the northern dog roses and dog roses were nice too, *Rosa caesia* ssp. *vosagiaca* and *R. canina* agg. respectively. About a third of the way along this reservoir are small examples of basaltic columns like in Fingal's Cave on Staffa, or the Giant's Causeway in Ireland etc. After passing the waterman's house we passed through a gate to what was the golf course. We soon reached a small pond by the path and delightfully we found several well grown orchids, common spotted *Dactylorhiza fuchsii* and northern purple *D. purpurella* at one marshy end and at the other David Adamson spotted large clumps of water whorl-grass *Catabrosa aquatica* with *Glyceria maxima*, the former very rare in the Lothians but both had been planted as the pond was artificial. David informed me he recognised at least four bumblebee species mainly sheltering from the rain on the undersides of hogweed *Heracleum sphondylium* and the like. He also found an invasive liverwort *Lophocolea semiteres* in the pinewood and some carpet moths and a lovely 2cm almost pure white triangular moth, not identified.

Douglas McKean

Carlops NT161557

2nd July 2016

Leader: Ptolemy McKinnon

On a grey morning with rain starting at 1030am, a group of 12 headed out of the village of Carlops towards North Esk Reservoir. Just off the main road were blue tits *Cyanistes caeruleus* calling in the trees and red valerian *Centranthus ruber* was noticed. Once out of the village, there was a good view of sand martins *Riparia riparia* feeding near the nest burrows in a sand bank on the edge of a field. There was a lack of natural history interest for about half a mile until we reached a patch of plants just below Fairliehope. Here heath spotted orchid *Dactylorhiza maculata* was present in large numbers. There was also common spotted orchid *Dactylorhiza fuchsii* and the two species can be distinguished by the flower. Common spotted has a lip divided into 3 equal segments, the central one being a tongue-like protuberance, while the heath spotted has a broad frilly lip, with little central protuberance. It is also generally paler in colour than common spotted. Surrounding the orchids was lemon-scented fern *Oreopteris limbosperma* and golden scaly male fern *Dryopteris affinis*. The weather progressively improved and the group headed past Fairliehope, where David Adamson pointed out a nuthatch *Sitta europaea* which had flown into the trees. Soon after, Wilma Harper noticed an area of geological interest. It was where some of the soil was visible and she pointed out it was a brown earth podzol. There was a surface layer of the ashy, leached and infertile top-soil with a brown subsoil beneath and typically this occurs in heathland in the UK.

On reaching the reservoir, two birds on fence posts under a group of trees took our attention. They were spotted flycatchers *Muscicapa striata* and we did see one exhibit its typical swooping behaviour of flying in a circular motion from its perch and back with an aim to catch an insect. After admiring the flycatchers, there was more bird interest on the reservoir with greylag geese *Anser anser* and tufted duck *Aythya fuligula* with young being seen. There were many black-headed gulls *Chroicocephalus ridibundus* on the island at the north end of the reservoir and interspersed

amongst them were common gulls *Larus canus*.

Once past the reservoir, it was a short walk up to a site where whinchat *Saxicola rubetra* are breeding. This is a species that migrates from Africa and breeds on heathland in the UK. This breeding site was first pointed out to me on an excursion here last year led by John Palfery. We first heard calls before seeing one individual just as rain began. To find some shelter, we headed to a nearby wood and settled down for lunch. It was at this point the sun came out again and a great spotted woodpecker *Dendrocopos major* was seen. After lunch, some of us headed back up to the whinchat site, seeing more individuals. There was botanical interest here, with hairy stonecrop *Sedum villosum*, tawny sedge *Carex hostiana* and pill sedge *C. pilulifera*. In total, 11 *Carex* sedge species were seen.

On the way back down to Carlops, Wilma spoke about some wooden pallets she had noticed. These had particular codes relating to where they were made and a process involving the pallets being heat-treated to kill any beetle larvae. Pallets have led to boring beetles such as Asian longhorn *Anoplophora glabripennis* being introduced to the UK in the past and this new method is to minimise the chance of bringing in an invasive species.

There was some insect interest during the day. David Adamson saw workers of blaeberry bumblebee *Bombus monticola* and heath bumblebee *B. jonellus* and a queen white-tailed bumblebee *B. lucorum*. A few beetles were seen; dor beetles *Geotrupes stercorarius* and a rove beetle *Staphylinus erythropterus* which is a heathland specialist with a beautiful reddish thorax and has gold spots on the abdomen.

Around Fairliehope again provided the best botanical sites of the excursion. A few hundred metres off the route back to Carlops, there was a boggy patch near a small area of woodland where the group saw lesser clubmoss *Selaginella selaginoides*. A buzzard *Buteo buteo* passed over while we were studying the flora of this area. There were more rare plants in a gully as we followed the North Esk down to Carlops. Beech fern *Phegopteris connectilis*, common rockrose *Helianthemum nummularium*, fragrant orchid *Gymnadenia conopsea* and mountain everlasting *Antennaria dioica* were present here. The excursion finished just as rain started; thankfully it had stayed relatively dry for the excursion making it a great day.

Ptolemy McKinnon

Cammo NT178749

5th July 2016

Leader: Tom Delaney

Although rain threatened all day, the nine of us who met at the ranger's office were pleased to experience only the occasional short shower. Our main focus was to be the many flower meadows planted recently in place of the coarse grassland in the north of the park. A great range of common and less common wild flowers had been planted by local enthusiasts in strips sheltered by hedges and banks of tall ruderals. The most attractive blooming shrubs in the hedges were dog rose *Rosa canina* agg., guelder rose *Viburnum opulus*, hawthorn *Crataegus monogyna* and elder *Sambucus nigra*. Tansy *Tanacetum vulgare*, meadowsweet *Filipendula ulmaria*, teasel *Dipsacus fullonum*, foxgloves *Digitalis purpurea*, nettles *Urtica dioica* and thistles formed protective banks between the planted plots. The legume family were well represented there with red *Trifolium pratense* and white *T. repens* clovers, both bird's-foot trefoils *Lotus corniculatus* and *L. pedunculatus* and kidney vetch *Anthyllis vulneraria*, meadow vetchling *Lathyrus pratensis*, tufted *Vicia cracca* and bush *Vicia sepium* vetches. The compositae were dominated by ox-eye daisies *Leucanthemum vulgare*, knapweed *Centaurea nigra* and the colourful alien, fox and cubs *Pilosella aurantiaca*. Labiates numbered white deadnettle *Lamium album*, hedge woundwort *Stachys sylvatica* and marjoram *Origanum vulgare*. One other alien was a single plant of evening primrose *Oenothera* sp. Seven spikes of common broomrape *Orobanche minor** were the cause of much interest. Other less common plants were corn marigold *Glebionis segetum*, hedge bedstraw *Gallium album*, musk mallow *Malva moschata* and common twayblade *Neottia ovata*. Taller patches of meadow cranesbill *Geranium pratense*, poppies *Papaver rhoeas* and comfrey *Symphytum* sp. were scattered

but the most common introduction, with a distinct purpose to the flower planters, was yellow rattle *Rhinanthus minor*, a hemi-parasite on grass roots reducing the vigour of undesirable grasses. With a profusion of nectar and pollen we were a little disappointed to discover few insects taking advantage. Scores of ringlet butterflies *Aphantopus hyperantus* were an exception and were joined by meadow browns *Maniola jurtina* in small numbers. The swathes of bird's-foot trefoil encouraged a few common blues *Polyommatus icarus* and the odd burnet moth *Zygaena*. Our two most numerous day-flying moths, silver ground carpet *Xanthorhoe montanata* and yellow shells *Camptogramma bilineata* were disturbed frequently, as were swarms of the tiny grass rivulets *Perizoma albulata*, whose larval food plant is yellow rattle. A few yarrow plume moths *Gilmeria pallidactyla* were found close to both tansy and yarrow *Achillea millefolia*, where presumably their larvae had fed, before pupating.

With time progressing we continued on to the walled garden in the heavily wooded part of the estate. The flowering umbels of hogweed *Heracleum sphondylium* provided a rich source of food for many insects, particularly bumblebees. David listed nine species on the day, including many gypsy cuckoo bumblebees *Bombus bohemicus*, the recent immigrant tree bumblebees *B. hypnorum* and the locally scarce white-tailed bumblebee *B. lucorum*. An attractively patterned myrid bug called *Grypocoris stylsi* was numerous, as were click beetles *Elateridae* and soldier beetles *Cantharidae* and sawflies *Tenthredo* spp. The pending rain clouds and the noise of increasing commuter traffic heading for the bypass, was sufficient for us to call it a day. It had been a good one, quite unexpectedly.

Neville Crowther

*Note – *Orobanche minor* is not native to Scotland and suggests the seed used was not of Scottish origin. Jackie Muscott

Loch Fitty NT131916

9th July 2016

Leader: Jean Long

On a damp morning with low cloud around, seven of us gathered near the east end of Loch Fitty. In the past, just north of here there was open-cast coal-mining and limestone quarrying. We set off to walk across the causeway, around 400 m long, separating a small area of water from the main body. Water horsetail *Equisetum fluviatile* was present and large stretches of marsh cinquefoil *Comarum palustre* spread along the verges. Common spotted orchids *Dactylorhiza fuchsii* were more common than the dark purple northern marsh orchids *D. purpurella*. Common carder bees *Bombus pascuorum* were enjoying the flowers of marsh thistle *Cirsium palustre* and creeping thistle *C. arvense*. This damp habitat favoured yellow iris *Iris pseudocarpus*, lesser spearwort *Ranunculus flammula*, marsh bedstraw *Galium palustre* and water forget-me-not *Myosotis scorpioides*. Large patches of reed canary grass *Phalaris arundinacea* were in full flower. There was also reed mace *Typha latifolia*. Nearing the far end of the causeway I pointed out bogbean *Menyanthes trifoliata* and common spike rush *Eliocharis palustris*.

While botanising, added interest was provided by the many birds we saw or heard. One male reed bunting *Emberiza schoeniclus*, willow warblers *Phylloscopus trochilus* and sedge warblers *Acrocephalus schoenobaenus* were around at the start where there was denser vegetation and marsh, before reaching the open water. A common sandpiper *Actitis hypoleucos* flew along and then we also saw a cormorant *Phalacrocorax carbo* and a grey heron *Ardea cinerea*. Although lots of flies danced above the water there was a noticeable absence of swallows and martins. We watched a family of mute swans *Cygnus olor* and five cygnets. Further out on the open water a great crested grebe *Podiceps cristatus* was swimming and then it flew over to the other side of the loch. This was the first time I'd seen one flying. Two little grebes *Tachybaptus ruficollis*, one teal *Anas crecca* and three goldfinches *Carduelis carduelis* were added to the day's bird list. Some excitement was caused by a flock of around a dozen black birds flying quite far off over the water. Neville and Tom decided they were most probably goldeneye *Bucephala clangula*, unusual for July.

Having reached the far end of the causeway we spent a short time in the trees near the loch where

our first toadstool was found – brown rollrim *Paxillus involutus*. A few mayflies *Ephemeroptera* were on the wing. As we retraced our steps along the causeway the low cloud was lifting and the weather looked more promising.

The next part of the excursion took us along the north east side of the loch, into St Ninian's Community Woodland, mainly deciduous and planted in 1998. We passed hazel *Corylus avellana*, aspen *Populus tremula*, hornbeam *Carpinus betulus*, sweet chestnut *Castanea sativa* and some ash *Fraxinus excelsior*, unfortunately showing signs of ash dieback. We heard a great spotted woodpecker *Dendrocopos major*, a chiffchaff *Phylloscopus collybita*, blackcap *Sylvia atricapilla* and a male bullfinch *Pyrrhula pyrrhula* was seen. Now that the weather had improved some insects were flying – green-veined white butterfly *Pieris napi*, silver ground carpet *Xanthorhoe montanata* and Neville pointed out a micro-moth called nettle-tap *Anthophila fabriciana*.

Eventually we turned away from the loch into open countryside with large expanses of tall grasses to either side of our path. Three of these were tufted hair grass *Deschampsia cespitosa*, wavy hair grass *D. flexuosa* and more reed canary grass. We were now heading for the first of three ponds to be visited.

This was to be our lunch spot and no one will forget it. We came across hundreds of toadlets *Bufo bufo*. They were crawling around all over the place! Neville had arrived before us and had seen a small heath butterfly *Coenonympha pamphilus* and a common carpet moth *Epippoe alternata*. He'd collected a straw dot *Rivula sericealis* and a silver Y *Autographa gamma* which were passed around. Some sedges were found here including bottle *Carex rostrata*, common yellow *C. demissa* and white *C. curta*. Later in the day we saw glaucous sedge *C. flacca*.

This was a lovely warm spot beside an interesting pond with broad-leaved pondweed *Potamogeton natans* growing there. However the time came to head off to the next one. Now we were very close to tall willow which has been planted around the former open-cast coalmining area, to hide it. It was along here that a common blue butterfly *Polyommatus icarus* was seen. Then at last we came across our first common blue damselflies *Enallagma cyathigerum* – flying and resting. In the next stretch of woodland Mary found lemon-scented fern *Oreopteris limbosperma*.

Leaving the trees behind we came to a stream which makes its way from pond to pond and eventually to Loch Fitty. Here it is in a deep-sided channel with lots of reed mace along the bottom. Bristle club rush *Isolepis setacea* was growing by the track and ragged robin *Silene flos-cuculi* by the pond. Neville stayed to explore this area further while the rest of us continued a short distance to the third pond. A grey heron *Ardea cinerea* suddenly rose from the undergrowth very close to us, then flew off into a nearby tree. Climbing up a short grassy slope brought us to where we could see the remains of one of the old Kiln Houses where the limestone quarrymen lived. This was as far as we were going so we turned round, and soon after I pointed out a chimney sweeper moth *Odezia atrata*, whose caterpillars feed on pignut *Conopodium majus*, which indeed was growing here. On meeting up with Neville he showed us one of the many brown china-mark moths *Elaphila nymphaea* he had seen by the pond. The caterpillars feed on the leaves of floating pondweed. We then retraced our steps, at a faster pace, to the car park. While having a catch-up stop, two buzzards *Buteo buteo* were seen at great height up in the sky. It was while watching them that Lynn was the first to catch sight of a sparrowhawk *Accipiter nisus* flying past quite close to us.

By the end of the day we had seen just over thirty species of birds as well as many plants, insects and of course the toadlets. This was, I think, the first time there has been an excursion to Loch Fitty and it was agreed it would be worth re-visiting in the future. I'd like to thank Lynn Youngs for taking notes throughout the day and I'm also grateful to Jackie, Neville and Tom for their help answering my questions after the outing.

Jean Long

Newbridge NT118726

13th July 2016

Leader: Douglas McKean

A group of seven members, the leader and his guest, Stuart Maxwell, met at Riverside Park,

adjacent to the river. As one person had not yet arrived we listed quite a few wild plants in the parking area while awaiting her arrival. Once all were present we set off up the river and most people were amazed at the lush marshy meadow dominated by meadowsweet *Filipendula ulmaria* on one side of the path. On the riverside of the path was a ribbon of woodland with sycamore *Acer pseudoplatanus*, Norway maple *A. platanoides*, alder *Alnus*, rowan *Sorbus aucuparia*, whitebeam *S. aria*, wych elm *Ulmus glabra*, birch *Betula* and ash *Fraxinus excelsior*. There was also a great range of willows including white *Salix alba*, grey *S. cinerea*, purple *S. purpurea*, crack *S. fragilis*, goat *S. caprea* and common osier *S. viminalis*. A hybrid Sorbus x thuringiaca *S. aria x aucuparia* was found by the path up towards the viaduct. On the way we found much broad-leaved bellflower *Campanula latifolia*, leopard's-bane *Doronicum*, one monk's-hood *Aconitum napellus*, dame's violet *Hesperis matronalis*, dog's mercury *Mercurialis perennis*, comfreys *Symphytum* spp., bittersweet *Solanum dulcamara*, wood Geum *urbanum* and hybrid avens *Geum x intermedia* and two lots of turk's-head lilies *Lilium martagon*.

Near the viaduct point we veered off the path and entered an extensive flower meadow partly dominated by meadowsweet and rank grasses; cock's-foot *Dactylis glomerata*, false oat-grass *Arrhenatherum elatius*, creeping soft-grass *Holcus mollis* and red fescue *Festuca rubra*. Fortunately these grasses were often kept in check by the semi-parasites yellow rattle *Rhinanthus minor* and red bartisia *Odontites vernus*. This led to many smaller species being found; glaucous sedge *Carex flacca*, brambles including *Rubus latifolius*, hard heads *Centaurea nigra*, eyebrights mainly *Euphrasia nemorosa*, five rush *Juncus* and five geranium *Geranium* species. Of clovers, there was red *Trifolium pratense*, white *T. repens*, zig-zag *T. medium* and black medic *Medicago lupulina*. Amongst hundreds of common spotted orchids *Dactylorhiza fuchsii* were twayblade *Neottia ovata* and eventually some northern marsh orchids *D. purpurella* in fruit. A host of rosebay willowherb *Chamerion angustifolium* and other willowherbs *Epilobium* species occupied this area. Interspersed in this meadow were a few hawthorns *Crataegus monogyna*, oak *Quercus*, sycamore and silver birch *Betula pendula* but thankfully they were widely spaced and hopefully will remain this way. We eventually entered the brown field site which was the extensive Uniroyal tyre factory about 20 years ago and now a dump for garden and other general waste. Here we found many garden escapes such as; *Geranium x monacense*, montbretia *Crocosmia* sp., black currants *Ribes nigrum*, *Clematis* sp., a hybrid tea rose *Rosa* sp, purple toadflax *Linaria purpurea*, creeping jenny *Lysimachia numularia*, spotted loosestrife *L. ciliata*, *Cotoneaster franchetii*, *Berberis thunbergii*, sea buckthorn *Hippophae rhamnoides* and the aliens narrow-leaved ragwort *Senecio inaequidens* and Japanese knotweed *Fallopia japonica*. On a previous visit the S. European grass *Anthoxanthum aristatum* ssp. *puelii* was found. This rare vagrant grass probably arrived here on the wheels of lorries but it seems to have died out. This may be the last sighting of this plant in the UK as the last English site was smothered by a rock fall. As no long distance lorries have visited this site for two decades it is amazing that this tiny winter annual has survived here so long. There is a large thriving colony of wood small reed *Calamagrostis epigejos**, rare in Midlothian, but likely to be spreading from adjacent West Lothian.

My colleague pointed out and kindly drew together the following list of creatures: Bumblebees *Bombus lucorum*, *B. terrestris*, *B. lapidarius*, *B. pascuorum* and *B. pratorum*, honey bees *Apis mellifera*, banded snails *Cepaea nemoralis* and *C. hortensis*, leaf beetle *Chrysolina hyperici*, harvestman *Phalangium opilio*, click beetle *Athous haemorrhoidalis*, hoverfly *Xylota sylvarum* and a fungus gnat *Sciarra hemerobioides*. A small number of butterflies and moths; a ringlet butterfly *Aphantopus hyperantus*, a snout *Pyralidae* and narrow-bordered 5-spot burnet *Zygaena lonicerae* moths. A newly dead common shrew *Sorex araneus* was shown around. A good number of blackening waxcaps *Hygrocybe conica* were found in the meadow area. There was a surprising number of birds; lesser black-backed gulls *Larus fuscus*, whitethroat *Sylvia communis*, blackcap *S. atricapilla*, chiffchaff *Phylloscopus collybita*, grasshopper warbler *Locustella naevia*, goldfinch *Carduelis carduelis*, linnet *C. cannabina*, robin *Erithacus rubecula*, dunnock *Prunella modularis*, blue tit *Cyanistes caeruleus*, buzzard *Buteo buteo*, swallow *Hirundo rustica* and wren *Troglodytes troglodytes*.

People were keen to depart to beat the traffic home but more time spent here would find a lot more as the adjoining birch wood was not searched. A total of 172 flowering plants and ferns were recorded. No mosses or lichens were attempted.

Douglas McKean

*Note – *C. epigejos* is already in E Lothian, east of Gullane, probably introduced during tree felling operations. Jackie Muscott

Little Boghead NS965681

20th July 2016

Leader: Fraser Donachie

Heavy rain had fallen all morning, which probably explains why only four arrived at the Sylvan Way meeting place for this afternoon outing. Although the afternoon remained humid and very warm, there was no more rain.

On our visit a couple of years previously we had tried without success to find water rail. Today's circuit of the local nature reserve also failed to produce this elusive bird. However on the outing we did find some notable insects, including an adult blue shieldbug *Zicrona caerulea* on a melancholy thistle *Cirsium heterophyllum* leaf. The shieldbug dropped into the vegetation before it could be photographed, but its shape and glossy blue colours were unmistakable. Other insects were the clouded border moth *Leptopterna dolabrata*, latticed heath moth *Chiasma clathrata*, 5-spot burnet *Zygaena lonicerae* moths, common blue *Polyommatus icarus* and ringlet *Aphantopus hyperantus* butterflies, 7-spot *Coccinella 7-punctata* ladybirds, three species of common damselfly and four species of bumblebees.

There were also siskins *Carduelis spinus*, goldfinches *C. carduelis* and reed buntings *Emberiza schoeniclus*. Sedges were represented by *Carex leporina*, *C. nigra* and *C. rostrata*. Other plants were greater spearwort *Ranunculus lingua* and purple loosestrife *Lythrum salicaria*. The most unusual bryophyte was a small leafy liverwort called *Gymnocolea inflata* of damp peaty soil.

Thanks to Fraser Donachie for leading us today.

David Adamson

Drumtassie and Heights NS900694

23th July 2016

Leader: Tom Delaney

The site is an area of an abandoned opencast coal mine with the Drumtassie Burn flowing by and where nature is reclaiming its hold with great success.

The first observation was that, since the recce a year ago, at least thirteen wind turbines had sprouted around the site. At the point where we had our lunch you could hear the hypnotic whooshing of the blades. They were so close they appeared to be bearing down on us.

This did not detract from the day. My head was spinning as we walked back to the cars because we had seen such an abundance of species with everyone commenting on how very successful the day had been.

Every member of the group, a total of nine, contributed to a magnificent species list much too long a list for this article but, the highlights will be mentioned.

The first notable plant seen was a beautiful garden escape where we had parked the cars at Heights Farm. It may have been a 'Greek mallow' *Sidalcea*. Sidalceas are native to western North America and there are a large number of horticultural varieties.

Later we found another garden escape, Maltese cross *Silene chalcedonica*. This had been observed on the last ENHS's outing to this site in 2010, worth mentioning, for the garden escapes of today could well be the naturalised plants of tomorrow.

The day was overcast with only a slight breeze. Fortunately for us it was warm enough for the butterflies and dragonflies to appear which once they got going, did us proud.

Ringlets *Aphantopus hyperantus* and meadow browns *Maniola jurtina* were plentiful along with the common blues *Polyommatus icarus*. A couple of sightings were made of small tortoiseshells *Aglais*

urticae and a few were fortunate enough to see a single dark green fritillary *Argynnis aglaja*. Moth species outnumbered the butterflies with, amongst others, two species of burnet moths, the six-spot *Zygaena filipendulae stephensi* and the narrow-bordered five-spot *Z. lonicerae latomarginata* and two species of china-mark moths, the beautiful *Nymphula nitidulata* and the brown *Elophila nymphaea*. The most stunning moth of the day was the gold spangle *Autographa bractea* in pristine condition, found by Helen Slater.

The larvae of cinnabar moths *Tyria jacobaeae* on common ragwort *Senecio jacobaea* were quite frequently seen and a single green larva of a broad-barred white moth *Hecatera bicolorata* was munching away on the yellow flower of a hawkweed *Hieracium* sp.

One dragonfly, the black darter *Sympetrum danae*, along with three damselflies, large red *Pyrrhosoma nymphula*, emerald *Lestes sponsa* and blue-tailed *Ischnura elegans* were a delight.

Wild flowers were in abundance, of which perhaps, the most notable was the heath cudweed *Gnaphalium sylvaticum* which I understand is very rare in West Lothian. Broad-leaved helleborine *Epipactis helleborine*, also worthy of a special mention was unfortunately only in bud. It was a single plant in the same spot as on the recce a year ago. Common spotted-orchids *Dactylorhiza fuchsii* were everywhere with a few white forms the individual flowers of which were further apart making them seem, at first glance, to be a different species.

It was nice to see the marsh speedwell *Veronica scutellata* in the damp, muddy edges of one of the ponds along with a nice stand of bulrush *Typha latifolia*. Other plants associated with the wet areas were the marsh ragwort *Senecio aquaticus*, branched bur-reed *Sparganium erectum*, marsh woundwort *Stachys palustris*, marsh arrowgrass *Triglochin palustris* and lesser spearwort *Ranunculus flammula*. There was a huge, dense area of water horsetail *Equisetum fluviatile* in one of the ponds.

Many fungi species were scattered throughout the site with two large ceps or penny buns *Boletus edulis*, which were, unfortunately, so badly affected by slugs that Neville Crowther was unable to take them home. He was compensated with the numerous chanterelles *Cantharellus cibarius*, growing on the mossy areas beneath the beech trees *Fagus sylvatica*. He was as happy as a sand-boy collecting them on the return leg of the outing.

Finally, other species of note were as follows; buzzard *Buteo buteo*, toad *Bufo bufo*, great diving beetle *Dytiscus marginalis*, common green grasshopper *Omocestus viridulus*, a gall on hawkweed *Hieracium* sp. caused by the gall wasp *Aulacidea hieracii* and a queen forest cuckoo bumblebee *Bombus sylvestris*.

My thanks go to Lyn Blades and Neville Crowther for help with identification of difficult species.
Sarah-Louise Davies

Prestongrange NT346734

30th July 2016

Leader: Jean Long

Prestongrange was a place of industry for centuries. Almost four hundred years ago glass was made by a largely Italian workforce. The small harbour at nearby Morrison's Haven exported coal, pottery and glass and imported rock salt and timber. With the passage of time the harbour fell into disuse and it was filled in some fifty years ago. Today the harbour has become a grassy hollow between the coast road and the Forth. The decade of the 1980s ended Prestongrange's industry. The coal buildings still stand, surrounded by birch *Betula* sp. and buddleia. Some old rails fight through the weeds and a steel bridge is sinking into the brambles. Mining is a memory. Prestongrange is now about history and natural history, and we met both today.

The history is in the relics of the industry, including an air raid shelter, the derelict brick buildings and the collection of pottery fragments resting against the base of a tree. The natural history is nature's response to the abandonment of an industrial site and, as at other venues visited this



Beautiful china-mark moth

summer, the results can be fascinating.

We assembled outside the Mining Museum where our first notable find was a longhorn beetle *Leptura quadrifasciata* on the roof of Sarah-Louise Davie's car. On nearby nettles were a couple of 14-spot ladybirds *Propylea 14-punctata* which are yellow and black and somewhat uncommon in the area. When the meeting started Jean took us uphill from the Mining Museum along paths that weaved between old buildings. Melilot *Melilotus officinalis* agg. is abundant on the old power station ash at Musselburgh Lagoons. However the white melilot *Melilotus albus*, a much taller plant than its yellow relative, dominates an overgrown yard at Prestongrange. We also found agrimony *Agrimonia eupatoria*, marjoram *Origanum vulgare* and an unusual clematis, all near the old air raid shelter.



We then left Prestongrange and crossed the B1348 road. Between the road and the Forth is an area of gorse and grass, in places sufficiently acid for crowberry *Empetrum nigrum* and heather *Calluna vulgaris* to grow. Sarah-Louise was very excited to find a rare fungus *Daldinia fissa* on burned gorse. By the shore Jean showed us some fossils of ancient *Lepidodendron* clubmoss roots. As we moved west along the coast towards Levenhall the flora became dominated by lucerne *Medicago sativa* and hoary cress *Lepidium draba*. We had already found black horehound *Ballota nigra* at Prestongrange but here, feeding on its flowers, were at least two unusual bees which were later identified as being *Anthophora furcata*.

Lunch was taken in sunshine at Morrison's Haven and we then made our way through the ash lagoon area, eventually reaching the scrapes. Neville Crowther had already pointed out a colony of sand martins *Riparia riparia* nesting in the compacted ash and we had seen some eiders *Somateria mollissima* in eclipse plumage from the sea wall. However the brief stop at the scrapes' bird-hides to look at gulls and waders was the only serious bird-watching in a day dominated by pre-history, history, plants, insects and a few fungi. The excursion ended with tea and ice-cream at Prestongrange Mining Museum. Thanks to Jean for a grand day out.

David Adamson

Pilton to Trinity Cycleway - Joint outing with TWIC

6th August 2016

Leader: Graeme Wilson

Today's group of seven, including four regular attendees at ENHS outings, followed the cycle-path below Pilton Drive until reaching Clark Road at Trinity. In contrast to most meetings, our aim was to record all species along the cycle-path within two monads, NT2376 and NT2476. A further aim was to avoid being hit by some of the many very fast cyclists whose bikes would qualify for the No-Bell prize.

The route is largely shaded and a bit damp, and the plants tended to be species commonly found in such sites. Most of the exceptions were garden escapes, notably *Fuchsia magellanica*, *Crocosmia x crocosmiiflora* and *Campanula trachelium*. Insect life seemed to concentrate on bramble flowers where the sun shone. In one such place we saw a newly emerged comma butterfly *Polygonia c-album* plus three bumblebee species. Where the sunlight was dappled we saw today's only speckled wood butterfly *Pararge aegeria*. A small metallic *LasioGLOSSUM* species of bee was feeding on *Hieracium* flowers. Finally, on the handrail of the entry path from South Trinity Road was an unusual wasp, *Ectemnius*, possibly species *cephalotes*.

Graeme Wilson, assisted by Janet Watson and Alison Ramsay, found evidence of fox *Vulpes vulpes*, badger hairs *Meles meles* and domestic cat at the entrances to some setts. There were badger trails and at least one newly excavated sett above the cycle-path.

Just below Clark Road the second monad ended, as did our recording. The vascular plant list totalled some 150 species. Thanks to Graeme Wilson for an interesting and entertaining excursion.

David Adamson

Whitelee Windfarm Bus Trip

13th August 2016

Leader: Tour Guide and Excursion Committee

The construction of Whitelee Windfarm began in 1996. It stretches over 7 miles across Eaglesham Moor, and there are now some 215 wind turbines which straddle the bleak moorland. A turbine's three rotor blades are made from balsa wood and fibreglass, and each blade weighs around 12 tonnes. A turbine's tower rests on a 70 tonne concrete platform. The older towers are 110 metres high, while those situated in the forest are usually 140 m high so that the wind currents reaching the rotor blades are unaffected by the trees. When operating to capacity the Windfarm can produce sufficient electricity to power almost 300,000 homes.

All this was related to us by our tour guide, Alan, who met us at the Visitor Centre and took all 16 of us for a 2 mile minibus trip to turbine number 71. At an altitude of 1,000 feet and close to the west coast, almost all of the turbines were turning in the strong westerly breeze. The blades make a soothing swishing noise as they rotate.

Having been informed about the history of the site and the operation of the turbines, Alan took most of us to the Blackwood Hill viewpoint from which we could make out the distant Pentlands in the east, the Campsie Fells to the north, and Arran and Ailsa Craig to our west. We then made our way to a nearby hill fort, the stone ramparts of which still proved to be an obstacle.

After lunch we decided to behave like a natural history society, and spent some time exploring the peat bogs by the side of the main paths. Bog asphodel *Narthecium ossifragum* was abundant, although its main flowering was over. On top of the *Sphagnum* mosses were round-leaved sundew *Drosera rotundifolia* and cranberry *Vaccinium oxycoccus*. Most of the bumblebees seen were white-tailed *Bombus lucorum*, but Ptolemy McKinnon found workers of the early bumblebee *B. pratorum* feeding on rosebay willowherb *Chaemeron angustifolium*. The day's only other bumblebee species was a rather faded heath bumblebee *B. jonellus*. We twice saw and heard a raven *Corvus corax*, and Ptolemy recorded a single wheatear *Oenanthe oenanthe*, today the birds were few and far between. Sarah-Louise Davies identified some of the fungi, notably the large grassland *Entoloma porphyrophaeum*, the fan-shaped *Thelephora terrestris* and a blackish ascomycete *Peziza badia*. She also found the first of many caterpillars of the northern oak eggar moth *Lasiocampa quercus calluna*.

Finally we took advantage of the cafe in the excellent visitor centre before boarding the coach back to Edinburgh.

David Adamson

Blackford Pond Bat Walk NT253709

16th August 2016

Leader: Natalie Todman

The weather was ideal when we met at Blackford Pond, a mild evening, beautifully calm and perfectly dry. Bats are pretty hardy little creatures and capable of flying when it is cold, windy and wet, but the insects upon which they prey are more vulnerable. All 18 British bat species are insectivorous, of which 10 have been recorded in Scotland and seven in the Lothians, three of which we hoped to see and hear at Blackford Pond.

As the light faded we walked through the trees towards the pond. The thick canopy reduced the light levels significantly and it wasn't long before we saw our first bat. The small size of the bat and the pattern of its flight – fast and erratic, twisting and turning at the edge of the trees – suggested it was a pipistrelle. In Scotland there are three species of pipistrelle, soprano *Pipistrellus pygmaeus*, bandit *P. pipistrellus* and Nathusius' *P. nathusii* yet to be recorded in the Lothians. Pipistrelles were split into soprano and bandit in the mid-1990s based on ecological factors and a difference in echolocation frequency. The soprano echolocates at a slightly higher frequency than the bandit. We used our heterodyne bat detectors to identify our first bat as a soprano. Heterodyne detectors listen to the high frequency echolocation of the bat and produce a representative sound that is audible to us; pipistrelles have a lovely, rich 'popping' sound, much like clapping cupped hands together. This

sound is deepest and richest at about 55 kHz for sopranos and 45 kHz for bandits. Our first bat was very quickly joined by other pipistrelles which turned out to be a mixture of sopranos and bandits. The relative abundance of soprano and bandit pipistrelles in Britain shows an interesting pattern – in southern England bandits are the more populous species and are often referred to as the common pipistrelle, but as you progress north numbers start to balance out to an almost 50/50 split in northern England. However by crossing the border into Scotland sopranos take over and are found in greater abundance until you reach the very north of Scotland where bandits are again the more abundant species. The reasons for this are currently unknown.

Time slipped by as we watched the aerial acrobatics of these amazing little creatures and reached the pond as the Daubenton's bats *Myotis daubentonii* arrived. Different species emerge from their roosts at different times relative to sunset; this is usually linked to the relative vulnerability of the bat; big, fast fliers like noctules *Nyctalus noctula* tend to be out sooner than smaller, slower fliers like Natterer's *Myotis nattereri*. Pipistrelles typically emerge about 30 minutes after sunset, Daubenton's 40 minutes. Reaching the water we could hear the distinctive echolocation of the Daubenton's bat. The sound is much 'dryer' than that of the pipistrelle, sounding more like clicks than claps and a noticeably faster repetition rate – the sound is often likened to the noise made by a Geiger counter. Their behaviour is unusual amongst British bats in that they are almost exclusively found foraging over water; their flight is fast and low, gaffing insects from the surface or just above and has earned them the nickname of the water bat. In addition to using bat detectors we used a high-powered torch with a red light filter to watch them whizzing over the water's surface. The torch was used briefly and intermittently to avoid causing disturbance to the bats. Reluctantly we called it a night and slowly walked away from the thrilling sight of the bats skimming the water and dancing along the edge of the trees, the clicks and claps of the bat detectors still ringing in our ears...

Natalie Todman

North Berwick Law Spiders and Balgone Estate, North Berwick NT552842

20th Aug 2016

Leaders: Katty Baird and Malcolm Lavery

We had a bright start to the day for this two-site excursion, the morning being focused on the study of spiders around North Berwick Law and the afternoon a trip of general interest around the lakes of the Balgone Estate, about 2 miles due south.

Our leader for the morning session was Katty Baird, British Arachnological Society local coordinator, whose main interest is in spiders and insects.

Setting off along the path leading up the Law we soon spotted some butterfly species taking advantage of the morning sunshine - a peacock *Aglais io*, small copper *Lycaena phlaeas* and a possible speckled wood *Pararge aegeria*. Proceeding on to the pond at the foot of the Law we encountered common darter dragonfly *Sympetrum striolatum*, emerald damselfly *Lestes sponsa* and pond skaters while bee species found in the vicinity included white, buff and red tailed *Bombus lucorum*, *terrestris* and *lapidarius*. A mother-of-pearl micro-moth *Pleuroptya ruralis*, one of the larger of the UK micro-moths, added to the early insect tally.

Moving on from the pond we approached a fractured rock-face which looked promising as a habitat for a variety of spider species. Soon Sarah-Louise caught a harvestman *Leiobunum rotundum*. These insects, while resembling long-legged spiders, are actually members of the opiliones group of Arachnids, and unlike spiders do not possess silk glands or venomous fangs. They catch their prey by means of hooks on the end of their legs. Katty showed us an example of the zebra jumping spider *Salticus scenicus*, with its distinctive black and white striped body. These spiders can and do jump and use this as a strategy in hunting prey. Like many spiders they do not build webs but actively hunt their prey, using their large eyes to help them. They possess an internal hydraulic system to jump, rather than long legs like grasshoppers. Wolf spiders *Lycosidae*, another variety of hunting spider, and lace-webbed *Amaurobius* sp. were also found in or around the rock face. Sac spiders *Cheiracanthium* sp., which live in silken tubes or sacs by day and hunt their prey by night,

were evident from the presence of sacs attached to the rock. A running crab spider *Philodromus* sp. was noted further up the hill. As the name suggests these spiders are known for their fast running speed and sideways crab-like movement.

We climbed further, this time in search of a plant species, maiden pink *Dianthus deltoides*. This evergreen perennial with its attractive clusters of pinkish flowers is known to occur on the Law, but seemed to have been overgrazed by the local Exmoor ponies as none was found.

Coming down the hill a sparrowhawk *Accipiter nisus* and male whitethroat *Sylvia communis* were noted, adding some interest for bird lovers.

As we grouped together ready to go over in cars to Balgone Estate, the skies clouded over and we seemed to have seen the best of the day. Indeed by the time we arrived there, rain could be felt in the air and was more or less with us for the remainder of the afternoon.

We parked next to the 17th century Balgone House, the centre-piece of the gardens, parks and woodland that make up the estate. Our focus was on two small lakes below the house created as curling ponds in the 19th century, and as we made our way down to start our circuit of them we passed some impressive trees including evergreen or holm oak *Quercus ilex*, hornbeam *Carpinus betulus* and yew *Taxus baccata*. Making our way round the first of the lakes we came across an impressive badger sett with evidence of latrines and some recently dug entrances. Stopping for lunch at a boating hut we saw a common sandpiper *Actitis hypoleucos* flying fast overhead. One of our number brought to our attention an interesting example of shieldbug eggs

on a leaf, with their uncanny resemblance to 'smiley faces' when viewed

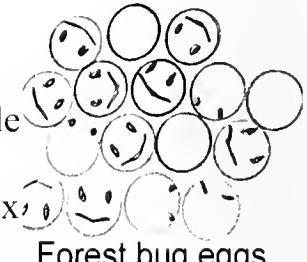
through a lens. Later their identity was confirmed to be forest bug *Pentatomidae rufipes*. Continuing round to the other side of the lake we found a good example of the handsome large mushroom the prince *Agaricus augustus*.

Moving on to the second lake, a family of two adult swans *Cygnus olor* with six cygnets came into view, the young birds now well grown. A coot's *Fulica atra* nest with two young swimming nearby was observed well out in the lake.

A couple of well-preserved examples of the giant puffball *Calvatia gigantea* were found by the path and we noted water plantain *Alisma plantago-aquatica* and celery-leaved buttercup *Ranunculus sceleratus*, both lovers of wet habitats, at the end of the lake before turning for home.

The rain didn't let up much, slightly spoiling what really is a lovely waterside walk through the trees surrounding these two lakes, but we made our way back to the cars having had a thoroughly varied day, with most of us having learned at least a little more about the fascinating world of spiders.

Malcolm Lavery



Forest bug eggs

Fala Walk NT437608

27th August 2016

Leader: Ian Schoolar

Fourteen of us set out on this walk and to start there were two strips of meadow seed sown by Scottish Water some time ago on either side of the first bit of the Fala Moor Road. We continued up this road as far as the wood, then doubled back to have lunch in the wood near Fala Mains Farm.

After this we went a short distance along the A68 and continued across the fields to Watergate Toll and up the Humbie Road back to Fala. A number retired to Soutra Coffee House for tea and cakes.

There was a rich variety of flora on the walk including knapweed *Centaurea nigra*, greater knapweed *C. scabiosa*, eyebright *Euphrasia* sp., yellow rattle *Rhinanthus minor*, devil's-bit scabious *Succisa pratensis*, marsh-mallow *Althaea officinalis*, field woundwort *Stachys arvensis*, harebell *Campanula rotundifolia*, sneezewort *Achillea ptarmica*, tormentil *Potentilla erecta*, ragged-robin *Silene flos-cuculi*, small cudweed *Filago minima*, Russian comfrey *Symphytum x uplandicum*, willow *Salix* sp, whitebeam *Sorbus aria*, glaucous sedge *Carex flacca* and rushes; heath *Juncus squarrosus* and sharp-flowered *J. acutiflorus*. Of clovers, there were red, white and zigzag *Trifolium pratense*, *T. repens* and *T. medium* respectively. Ferns seen were lady fern *Anthyrium filix-femina* and common male fern *Dryopteris filix-mas*. Two types of liverwort were seen; leafy *Fossumbronia* sp. and thallose possibly hornwort *Anthoceros* sp.

There was a new beetle for many of us, thistle tortoise beetle *Cassida rubiginosa*. The sunshine had brought out a host of bees, butterflies, moths and flies; notably a fly *Cheilosia illustrata* on hogweed *Heracleum sphondylium*.

It was good to see spotted flycatcher *Muscicapa striata*, siskin *Carduelis spinus* and swallow *Hirundo rustica*. Some sharp eyes spotted eyelash fungus *Scutellinia scutellata* agg. a tiny orange disc fungus with eyelashes around the circumference.

Ian Schoolar

Yair NT459324

Saturday 3rd September

Leader: Lynn Youngs

Eleven members gathered at the car park by Yair Bridge to be greeted by overcast skies and a forecast of heavy rain for the afternoon. Undaunted we set off along the quiet minor road towards Yair House before heading up a track that wound its way through the forest towards the Three Brethren. A grey wagtail *Motacilla cinerea* was spotted by the bridge, and the stone walls lining the minor road were very botanically rich with huge areas covered by maidenhair spleenwort *Asplenium trichomanes*, hard fern *Blechnum spicant*, wall rue *Asplenium ruta-muraria*, hart's-tongue fern *Asplenium scolopendrium* and common polypody *Polypodium vulgare*. A nuthatch *Sitta europaea* was seen briefly on this stretch of the walk and a chiffchaff *Phylloscopus collybita* was heard. Other plants seen along the road included slender St John's wort *Hypericum pulchrum* and common valerian *Valeriana officinalis*.

The weather held as we walked along the track and we saw opposite-leaved golden saxifrage *Chrysosplenium oppositifolium*, wood sorrel *Oxalis acetosella*, wood stitchwort *Stellaria nemorum* and common dog-violet *Viola riviniana* before pausing at a very attractive pond. Here we found broad-leaved pondweed *Potamogeton natans*, bogbean *Menyanthes trifoliata*, water mint *Mentha aquatica*, water horsetail *Equisetum fluviatile*, yellow iris *Iris pseudacorus*, marsh violet *Viola palustris*, lesser spearwort *Ranunculus flammula* and marsh thistle *Cirsium palustre*. An emerald damselfly *Lestes sponsa* was spotted briefly as we left the pond. Sedges seen included bottle sedge *Carex rostrata*, common yellow sedge *Carex demissa* and wood sedge *C. sylvatica*. Early hair-grass *Aira praecox*, compact rush *Juncus conglomeratus* and bristle club-rush *Isolepis setacea* were also identified before we continued the walk to a clearing in the forest which made for an ideal lunch spot. Before lunch a few fungi were seen including the beech sickener *Russula nobilis* and the larch bolete *Suillus grevillei*, the latter being particularly plentiful. A lovely flock of siskin *Carduelis spinus* flew past as we sat down to eat our lunch.

After lunch seven members continued the climb to the summit of the Three Brethren (464m) and despite the intermittent drizzle that had started we enjoyed good views of the surrounding Border Hills. Three Brethren is named after three stone mounds built in the 16th century by the lairds of Yair, Philiphaugh and Selkirk to mark the boundaries of their lands. New plants seen on the climb included hairy tare *Vicia hirsuta*, red bartsia *Odontites vernus*, devil's-bit scabious *Succisa pratensis*, cowberry *Vaccinium vitis-idaea*, stag's-horn clubmoss *Lycopodium clavatum*, upright hedge-parsley *Torilis japonica*, bitter vetch *Lathyrus linifolius*, harebell *Campanula rotundifolia* and yellow rattle *Rhinanthus minor*. From the summit we descended back to the clearing before heading back to the car park via the Southern Upland Way (SUW) in brighter weather.

Fungi was plentiful on the return walk and included *Tricholoma saponaceum*, stinkhorn *Phallus impudicus*, puffball *Lycoperdon perlatum*, sulphur tuft *Hypholoma fasciculare*, fly agaric *Amanita muscaria* and slippery Jack *Suillus luteus*.

One of the highlights of the walk was the sightings of three amphibians – common frog *Rana temporaria*, common toad *Bufo bufo* and six palmate newts *Lissotriton helveticus*. The newts were found in a large puddle in the clearing where we had lunch. On the SUW section we were intrigued by the sight of a common yew *Taxus baccata* growing out of the middle of a sycamore tree *Acer pseudoplatanus* and we marvelled at a wonderful giant redwood *Sequoia adendron giganteum*.

In total ten different species of bumblebee were seen including *Bombus hypnorum*, *B. monticola*, *B.*

campestris, *B. pratorum* and *B. hortorum*. One Saxon wasp *Dolichovespula saxonica* and one bog hoverfly *Sericomyia silentis* were also seen.

Overall a very enjoyable outing in better than forecast weather conditions, with something for everyone.

Lynn Youngs

Cademuir NT248383

10th September 2016

Leader: Wilma Harper

If I were to give this report a subtitle it would be 'A tale of the unexpected!' One of the delights of a Nats excursion is you never know what interesting things are going to turn up. Cademuir was selected back in February when the summer programme was being put together after a not very inspiring preliminary recce. Cademuir forest has a good mix of tree species and ages, and our route would also include some open grassland. It's on the outskirts of Peebles but with the advantage of

being away from the busyness of the town and the mountain bikers of Glentress.



The first part of the walk took us along the forest edge to the oddly named Tantah. A bit of Googling revealed that it was named after a town in the Nile delta where a local Victorian entrepreneur had made his fortune from cotton at the time of the American Civil War. At this point we joined the John Buchan Way and began a steady uphill climb with swallows *Hirundo rustica* swooping round us. Inevitably the group started to get strung out at this point as people went off the path looking for plants and fungi or kept a steady pace taking in views of the Manor Valley. The wanderers who followed David Adamson's cries of delight were rewarded by finding themselves in a base-rich flush with an abundance of fox moth caterpillars *Macrothylacia rubi* and the lovely grass of Parnassus *Parnassia palustris* in various stages of development. Other plants found were few-flowered spike-rush

Eleocharis quinqueflora and lesser clubmoss *Selaginella selaginoides*. This area kept the group occupied for about half an hour during which the mosses *Breutelia chrysocoma* and *Philonotis calcarea* were found.

Time was marching on, even if the Nats were not, and the group was brought back together before tackling the last and steepest bit of climb before lunch. A high point for the lunch stop rewarded us with views of the surrounding hills including the remnants of the hill fort on Cademuir Hill itself. We then descended through young trees and heather to take in a knoll with mature Scots pine with a good crop of *Amanita vaginata*. The forest on the lower ground for the next section was a mix of broadleaves, conifers and open glades. Those at the front of the group were fortunate to get a good view of a spotted flycatcher *Muscicapa striata* and at various points along the path we saw or heard siskins *Carduelis spinus*, long tailed tits *Aegithalos caudatus*, coal tits *Periparus ater* and goldcrest *Regulus regulus*.

We soon rejoined the path which took us back to the car park. The day was rounded off, for some of us at least, with tea and cake or ice cream at a cafe in Peebles. A fairly ordinary bit of forest and upland grassland had turned out to be an unexpected gem.

Wilma Harper

Portmore Loch NT242475

17th September 2016

Leader: David Adamson

Sixteen Nats set out from near the Scots Pine Cafe and followed the overgrown old road to the main entrance of Portmore Estate. From there we repeated the route of last year's outing which took us past Portmore House and the keeper's cottage. In 2015 we returned when we reached a gate with

views over Cowieslinn Quarry. Today we completed a circuit of Portmore Loch, returning on good tracks through upland pasture via Boreland Farm. The total distance covered was around five miles and the September weather was ideal for walking.

The driveway to Portmore Estate is lined with policy trees, including some massive Douglas firs *Pseudotsuga menziesii*. In addition to those planted in the nineteenth century, Neville Crowther pointed out a dawn redwood *Metasequoia glyptostroboides*. After two ravens *Corvus corax* had flown past we saw a group of *Boletus calopus* mushrooms growing under the same beech tree *Fagus sylvatica* where we had found it on a visit a few years ago.

At the edge of a spruce *Picea* sp. plantation were bumblebees, including a male forest cuckoo bumblebee *Bombus sylvestris* feeding on devil's-bit scabious *Succisa pratensis*. This was near the turning point of last year's walk. Today we continued past mature beeches and oaks *Quercus* sp., which gave way to a natural birch wood *Betula* sp. that continued all the way to Portmore Loch. We took lunch sitting on the lochside wall, enjoying the views of Dundreich Hill across the water.

The sun shone as we took the track round the east side of the loch, often pausing to look at the many species of *Hygrocybe* waxcap fungi. Ptolemy McKinnon caught a water beetle, *Rhantus suturalis*, which he saw fly into the field that we were crossing. Further on, Stuart found some rock-rose *Helianthemum nummularium* on the dry slope facing the main track. Apart from these, there were painted lady butterflies *Vanessa cardui* and seven species of bumblebee, many on creeping thistle *Cirsium arvense*. Birds noted by Neville and Ptolemy included siskins *Carduelis spinus* and jays *Garrulus glandarius*; Stuart Maxwell spotted a snipe *Gallinago gallinago*. Perhaps the most notable fungi, apart from *Hygrocybe* species, were *Amanita crocea* and *Microglossum viride*. The mosses were unexceptional but Jean Murray identified *Sphagnum inundatum* and *Racomitrium aciculare*. The outing ended with some catching the X62 bus back to Edinburgh and the rest of us adjourning to the Scots Pine Cafe for a welcome cup of tea.

David Adamson

Red Moss NT166639

24th September 2016

Leader: Rebecca Yahr

It was a cloudy and breezy day when we met at Red Moss car park. A few new faces turned out to be students from the RBGE so we anticipated that our knowledge and memories were going to be tested. We were pleased to welcome Becky as leader, accompanied by Wyn the younger of her two growing boys.

We paused near to the start of the board walk by a small group of birch *Betula* sp. and willows *Salix* sp. to review our knowledge of lichen morphology and classification. Samples of the fruticose bushy species *Usnea subfloridana* were used to demonstrate both radial symmetry and the existence of soredia and isidea. Apothecia (fruit bodies) are rarely found in this species. We compared it with a pale green tufted example of oak lichen *Evernia prunastri*, in which its placement into either fruticose or foliose categories was in dispute. Other common foliose ones included two *Parmelia* species, *sulcata* and *saxatilis* agg. The latter has a difficult taxonomy and its genetics possibly could be a mix of more than one species. They both exhibited more of the powdery asexual reproductive bodies called soredia, often associated with pseudocyphellae, a network of coarse but faint white cracks in the upper cortex of the thallus lobes. In *P. saxatilis* only, there were dense patches of peg-like isidea. The lower cortex is black in colour with many rhizines. Also common were the foliose thalli of *Hypogymnia physodes*, on twigs of heathers and heathland trees.

Out on the open dome of the raised bog we found many examples of the fruticose genus *Cladonia*, usually distinguished by being pale yellow-green or grey with upstanding thalli called podetia. The most common species on Red Moss were *C. portentosa* producing whitish patches, often of several square metres, midst the heather and sphagnum. The similar *C. arbuscula* was found not uncommonly, with the brown tips of the branching thallus characteristically recurved in the same direction.

The commonest of the 'pixie cup' lichens was *C. fimbriata* with the podetia tips like golf tees.

Usually growing on dead wood or peat, the rim of the cup had apothecia visible with a lens. Less common than once was the case, possibly due to the drying of the bog surface, was an occasional tuft of *C. uncialis* easily recognised by thick coarse podetia with holes in the surface, the tips dichotomously ending in a brown point. A similar brighter sulphur yellow lichen *C. sulphurina* with red apothecia was a new record for the site. Yet another *Cladonia* was *C. polydactyla* growing on dead wood in the peat.

For comparison we were introduced to a few lichens taken from Cairngorm heaths.

Becky had brought with her, from a visit to Ben a Bhuidh the previous week, several high altitude lichens from montane heath. One was possibly the best known reindeer lichen *Cladonia rangiferina* which forms large areas of lichen heath in Scandinavia. Also on view was *Cetraria islandica*, thought to have powerful medicinal properties, found on heaths above 800m. It seemed to be well known by two of the students, not surprisingly from Latvia and the Czech Republic.

We moved on to scrub woodland of mainly birch and willow. Fungi such as birch brackets *Piptoporus betulinus* aroused interest along with numerous fruiting bodies of *Russula claroflava* and a near perfect example of *Amanita fulva*. After a short discussion about pH of tree bark, from the basic in willows to the acid in birch and beech, which influenced the ecological choice a lichen species may have, we went on to search for crustose species on the smallest of twigs. Very common on smooth barked trees, they included *Lecanora chlarotera*, with 'jam tart' apothecia and *Xanthoria parietina* bearing disc shaped apothecia containing the sexual ascospores. Also on the same trees, we found *Platismatia glauca*, characterised by a pale green thallus with a chestnut underside. Near to our lunch spot, we looked unhappily at the encroachment of thousands of small birch trees onto the bog surface. The resulting dehydration would ultimately produce the death of the raised bog. Crossing the stone bridge between Bavelaw and Threipmuir Reservoirs was an opportunity to examine several crustose lichens growing on acid rocks. The easiest to recognise were *Lecidzia lithophila* with rusty staining and black lecidine apothecia, and the bright yellow-green thallus of *Rhizocarpon geographicum*, known as the map lichen because of the pattern of black lines which divide the thallus into 'areoles'. The distinctive lecanorine white rimmed black apothecia of *Tephromela atra* were also notable.

An avenue of mature beeches which lined the road to Bavelaw Castle became our next objective. The short grass between the trees had sheets of a dog lichen *Peltigera membranacea*, clinging tightly to the substrate by means of dense white rhizines. The smooth bark of most trees had the white-grey patches of *Pertusaria amara* whose powdery soralia had a distinctive bitter taste .A close relative known as the pepper-pot lichen *Pertusaria pertusa* with wart-like apothecia with pits like a pepper-pot was easily distinguishable. Higher up the trunks we found the pendulous and fruticose *Bryoria fuscescens*. On the beech mast amongst the blaeberrries *Vaccinium myrtillus* two other *Cladonias* were found. *C. gracilis* had brown-grey tightly packed parallel podetia topped by tiny cups. *C. furcata* had a mat forming mass of podetia and was also brownish grey.

A serious diversion now occurred. We began to find lots of wood hedgehog fungi *Hydnnum repandum* and also chanterelles *Cantharellus cibarius*. The students with us all decided their evening meal would be a mycological banquet. So it was apparent that we were all by now 'lichened-out'. And at about 3pm, and on time, according to the forecast the wind became wilder and the rain drops heavier so we backtracked to the parking place. Despite the onset of equinoctial weather an excellent day was enjoyed by all. Thanks to Becky for giving us a better understanding of a difficult subject. How permanently the information stays with us remains to be seen.

Neville Crowther

The Hermitage, Dunkeld NO013423

1st October 2016

Leader: Alison Wilson

Ten of us, some braving the brief foggy patches en route, met up on a pleasant sunny morning at the Hermitage. We had barely gone 50 yards before the moss enthusiasts were studying the growth on the railway bridge and finding *Anomodon viticulosus* and *Tortella tortuosa*. Mosses, lichens and, of

course, fungi were the main source of interest for the day, October being a bit late for flowering plants. But we did see a lot of wood cudweed *Gnaphalium sylvaticum* and also some trailing tormentil *Potentilla anglica* with its flowers noticeably larger than the normal tormentil, both relatively rare in this part. Wilma Harper spotted some *Amanita citrina*. We followed the river along to the Folly where the waterfall was in fine form. We continued along to Rumbling Bridge - pity any salmon trying to make its way upstream. After coffee on a convenient boulder we made our way up to the Pine Cone viewpoint before heading back to the cars, not quite managing to dodge a brief shower of rain – again the fungi enthusiasts were somewhat behind the rest of us but seemed well pleased with their finds, and we compared notes over hot drinks in Birnam before heading home.

Alison Wilson

Nunraw Woods NT593700

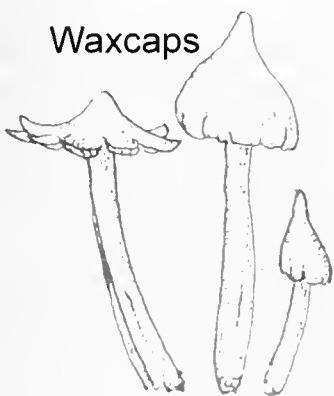
October 29th 2016

Leader: Stephan Helfer

The point of assembly was at Nunraw Abbey, a kilometre south of Garvald. The abbey was built on land acquired in 1946. Notable for being the first new monastic building in Scotland since the Reformation, it has a Cistercian Trappist community in residence.

Our fungal foray was to visit the nearby Nunraw Woods led by Stephan Helfer. The woods were part of the estate of Nunraw Tower sold recently by the Cistercian Order to raise funds for the Abbey. Our numbers had swelled to 26 and included three ecology students from The University of Edinburgh and four members of the family who had purchased the wood. Considerable change had taken place in the main woodland involving felling, clearing and draining, leaving only scattered 'standards'. The consequence for what was once a good site for mycology remained to be discovered.

The lawns around the abbey yielded quite a colourful haul of grassland fungi including parrot waxcaps *Gliophorus psittacinus* and scarlet ones *Hygrocybe coccinea* and *H. reidii*. A short time later the ballerina *Hygrocybe calyptriformis*, only 20 years ago thought to be very rare, was also found. Less noticeable were *Paneolus* and *Psathyrella* spp and *Cystoderma amianthinum*.



The cleared areas yielded several easily identified and common agarics such as the brown roll rim *Paxillus involutus*, the deer shield *Plutius cervinus* and the well named *Melanoleuca melaleuca* with a dark cap and white underside. *Oudemansiella mucida*, known by a number of common names such as poached egg and porcelain fungus glowed against the light as groups of translucent silvery fruiting bodies marched up the bark of the beech trunks. Stumps of broadleaved trees had densely tufted fruiting bodies of *Pholiota squarrosa*, some others had tightly packed caps of honey fungus *Armillaria gallica* and one stately but dying trunk of beech had both *Meripilus giganteus* and *Ganoderma applanatum* brackets projecting outwards up to 10m from the ground. Our student visitors quickly discovered the reason why the latter was called the

artist's fungus, as they etched their marks on the white underside. As always the distinction between poisonous and edible was also of great interest to them. The difference between *Inocybe geophylla* var. *lilacina* and *Laccaria amethystea* was a case in point. Both are agarics of a similar size, both common and both lilac/purple. The former is very poisonous and the latter edible. The most distinguishing feature is that the gills are 'crowded' in *Inocybe* but 'distant' in the latter, known as the purple deceiver!

Plans for a student banquet were being hatched as we began to discover several good edible species, wood mushrooms *Agaricus silvaticus*, wood hedgehogs *Hydnellum repandum* and wood blewits *Lepista nuda* which must be cooked - not eaten raw. It was also salutary that quite a lot of the identification involved smell and taste - caveat emptor!

We stopped for lunch in a well preserved strip of woodland to the east bounding a steep gorge,

where some of the tree species were old, tall and impressive. Many were oaks *Quercus* and beeches *Fagus sylvatica*, one of the latter a cultivar called the fern-leaved beech *Asplenifolia*, described also as a chimaera, because if branches are damaged the distinctive leaves are replaced by the ancestral normal leaf form. Great interest was expressed in two sweet or Spanish chestnuts *Castanea sativa*, which were probably about 400 years old. This archeophyte is thought to have been introduced by the Romans almost 2 millennia ago.

Some of the many wood rotting fungi found were ascomycetes, not basidiomycetes like those mentioned above. Coral spot *Nectria cinnabarinata* was widespread usually found on rotting dead sycamore branches. *Hypoxylon fragiforme* performed a similar function on beech. Candle snuff fungus *Xylaria hypoxylon* on woody debris is the third of this group called pyrenomycetes. A slightly different group are the discomycetes to which belong *Bisporella citrina* with lemon yellow concave discs and *Ascocoryne sarcoides* with red-purple discs.

Three large and numerous groups of gill fungi, commonly found in woodlands belong to the genera *Russula*, *Lactarius* and *Amanita*. Unusually until late in the afternoon we had not found any. The explanation was not obvious, but we did discover *R. ochroleuca*, *L. blennius* and *A. muscaria* as we turned for home.

A final and very unusual discovery by Cameron Die Konigin was a deformed fruiting body of the clouded agaric *Clitocybe nebularis*. The main cap had a 'satellite' fruiting body perched and firmly attached by its stipe to the rim. No one admitted to having seen this abnormality before.

Thanks are due to Stephan for his leadership, the monks of Nunraw for allowing us parking space and to Vladimir Krivtsov and Cameron who were particularly generous with their ID skills.

Neville Crowther

Musselburgh NT346734

12th November 2016

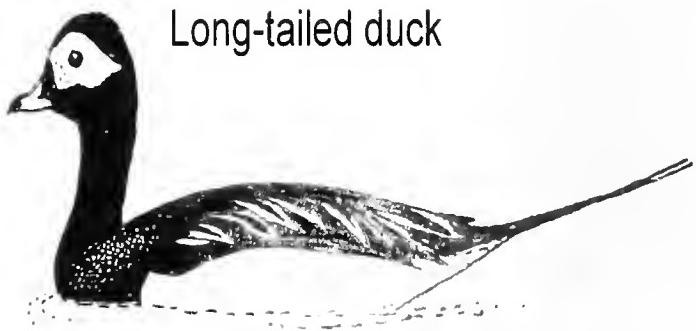
Leader: Ptolemy McKinnon

On a dry morning, 13 gathered at Goose Green, Musselburgh, for a walk along the sea wall to the lagoons at Levenhall Links. The focus was on birds and from the start, pied wagtail *Motacilla alba* and starlings *Sturnus vulgaris* were seen. There was hope of seeing a North American vagrant, a surf scoter *Melanitta perspicillata*. On reaching the sea wall, many birders were walking alongside the Nats group. This was due to three other groups including an RSPB group choosing the same day to visit Musselburgh. Out to sea, many ducks were noticed, including goldeneye *Bucephala clangula* and velvet scoter *Melanitta fusca*. A group of long-tailed duck *Clangula hyemalis* was very nice to see, but it only seemed to be made up of females and juveniles, with no males with the long tails after which this species is named. Soon after seeing these first waterbirds, a goosander *Mergus merganser* was seen flying past. This was pointed out by Sam Hood of the RSPB North East England group, someone I met last year on the Isle of May.

Other birds flying past included oystercatcher *Haematopus ostralegus* and cormorant *Phalacrocorax carbo*. While watching long-tailed ducks and searching for the so far elusive surf scoter in amongst other scoters, I caught a glimpse of a bird starting to fly in the distance. It was a red-throated diver *Gavia stellata* in winter plumage. Despite lacking the red throat, it was clearly a diver from the body shape and feet positioned towards the back of the body.

Along the seawall, a great crested grebe *Podiceps cristatus* was spotted very close in. Not far from here, a group of twite *Carduelis flavirostris* was seen. These birds are found in the uplands of the UK but will come down to the coast in winter and numbers increase at this time of year, when birds from the continent arrive. In coastal areas, they will feed on seeds as we saw on the walk.

High tide was around 12.30, so there was an aim to get to the lagoons for that time as birds are pushed onto the lagoons to roost or feed. It was the best chance to see waders. However, with many people visiting that day, we waited for most people to leave the hides and decided to have lunch by the boating pond. This gave a view of the boating activities that were occurring and the mute swans



Long-tailed duck

Cygnus olor, mallards *Anas platyrhynchos* and a little grebe *Tachybaptus ruficollis* that were visible on the pond. Food took priority though, followed by the flora on a piece of concrete nearby. David Adamson and Vladimir Krivtsov were inspecting the mosses and liverworts growing on it. Many common species were identified, including *Bryum capillare* and *Grimmia pulvinata*. David found *Rhynchostegium confertum* and was pleased to be able to identify it in the field.

Once finished lunch, the group went into the bird reserve to view the scrapes from the hides. This area is part of a larger area of lagoons which were created as an ash disposal area for Cockenzie Power Station. One of the disused lagoons was turned into scrapes to attract a wide variety of birds. The scrapes provide a high-tide roost and feeding area for waders such as bar-tailed godwit *Limosa lapponica*. Many migrant birds pass through, such as yellow wagtails *Motacilla flava* which will feed on insects around the water. In the trees near the hides, there were bullfinches *Pyrrhula pyrrhula* feeding on berries and seeds, identified as they flew away by their white rump and distinctive call. On the scrapes, many waders were seen with the highlights being snipe *Gallinago gallinago*, grey plover *Pluvialis squatarola* and greenshank *Tringa nebularia*. There was also a late appearance of a Sandwich tern *Sterna sandvicensis*.

On leaving the scrapes, the original thirteen had become six and walked back along the sea wall towards the River Esk. We noticed the wind had picked up, causing waves on the water. This made it difficult to see birds out at sea, meaning a brisker walk back. Despite the pace, David managed to spot some mosses on the sea wall with one being identified as *Tortula muralis*. There was no sign of the surf scoter, but it was a great day, seeing over 30 bird species.

Ptolemy McKinnon

Roslin Glen NT273628

3rd December 2016

Leader: Neville Crowther

Today, the North Esk flows from the reservoir above Carlops to the sea and is an interconnected network of designated sites, footpaths and cycle trails enjoyed in leisure time by residents of Midlothian and elsewhere. Much of what we were to see on this walk however was to be a reminder of recent industrial history and was the workplace for the inhabitants of the nearby villages.

We began our walk at the car park near to a defunct carpet factory, beneath the medieval Roslin Castle and Chapel. We walked south to the hairpin bend on Powdermill Brae, where the gates to the Roslin Gunpowder Factory were a guarded access point for the workers, who were frisked for tobacco and combustibles before entry. Built in 1803 the mills were closed in 1954. Over a decade later the gorge became the Roslin Glen Country Park.

The initial attraction for the owners of the mill was a deep gorge which sheltered the nearby houses and farms from explosions, of which there were many, and fast-flowing water to drive the machinery which produced the 'black pooder'. The three ingredients for gunpowder were charcoal, made on the spot from the woods within the gorge, and saltpetre and sulphur from southern Europe. Convoys of wagons drawn by Clydesdale horses took barrels of gunpowder up the Brae to the Edinburgh Road and on to Newhaven and Leith for transportation by ship to much of the world. The Royal Navy and the Army were needy recipients of large quantities of gunpowder during the Napoleonic Wars and later the Crimean War. Also, the growing mining industry of the Lothian coal field demanded blasting powder. Within a two mile radius there were several pits, the last one at Bilston closing in the 1970s. In the mid eighteenth century the factory was bought by Alfred Nobel as part of his world-wide consortium of explosive works. In the 1920s ICI became the owner. The two World Wars changed the complexion of the workforce with women becoming the majority as men were at the 'front'. Many of these ladies worked in 'bomb' factories in the Lea Farm fields to the east.

In the nineteenth century with the abundance of deep-mined coal as an energy source, the mill machinery became powered by steam. Railways were constructed on both banks of the Esk. The one on the east side owned by the North British Railway was famous for its 'Tin Tunnel' to protect the trains from accidental blasts. It terminated at Peebles. The western-most line stopped at Penicuik

after crossing the Glencorse Burn via a spectacular viaduct only demolished in the Beeching years. After a leisurely perambulation through this faint snapshot of industrial history, with commentary by Neville Crowther, we crossed the Esk below the now derelict weir and ascended to the old railway bed at Kirkettle, now a long distance path.

Passing northwards we had lunch at the former Rosslyn (sic) Castle station, before entering Roslin SWT reserve and returning to our starting point. The excursion attracted a good number of members, 14, with the welcome addition of three new faces.

Although the weather had been cold and frosty for the previous week, quite a few fungi were found, most of them on wood, and some of these are mentioned below. Not unexpectedly, the winter species, velvet shank *Flammulina velutipes*, with its bright tan cap and dark brown velvety stem turned up just after we entered the reserve. Groups of it were running up the trunk of a tree not far from the path. A little farther on was the beautiful tiny pink *Mycena pterigena*, which has no English name and is to be found in late autumn on the dead or dying fronds of ferns. At the other end of the size scale was giant funnel *Leucopaxillus giganteus* which is almost as big as a dinner plate. It was found by Sarah-Louise Davies on the ground under trees by the side of the disused railway. Perhaps the most unusual find of the day was brown cup *Rutstroemia firma* spotted by Vladimir Krivtsov on branches of a fallen birch tree in the SWT part of the reserve. Other finds included common rustgill *Gymnopilus penetrans*, jelly ear *Auricularia auricula-judae*, lemon disco *Bisporella citrina*, clustered bonnet *Mycena inclinata*, collared earthstar *Gastrum triplex*, olive oysterling *Panellus serotinus*, candlesnuff fungus *Xylaria hypoxylon*, beechmast candlesnuff *Xylaria carpophila*, smoky bracket *Bjerkandera adusta*, wood blewit *Lepista nuda* and *Plicaturopsis crispa*.

Notable mosses included *Didymodon tophaceus* and *Dichodontium pellucidum*

One member noticed an unusual feature in the sky and commented that 'The most exciting observation for me was the Upper Tangent Arcs, a meteorological phenomenon, that appeared in the sky just before Neville's introductory talk in the car park. I have never seen them before. They were like gull's wings in the colours of the rainbow at 22 degrees directly above the sun. The colours were bright but delicate with the left 'wing' longer than the right caused by sun shining through a thin ice crystal cloud.'

David Adamson, Neville Crowther, Mary Clarkson, Sarah-Louise Davies and Peter Leach

Spylaw to Redhall and Christmas Lunch NT213690

29th December 2016

Leader: David Adamson

This outing followed the route planned by Janet Watson, who was unfortunately unable to attend due to illness. We met at the car park below the bridge at Colinton, walked through the village past Colinton Church and across the Colinton Dell footbridge. At Redhall, we again crossed the Water of Leith to explore the Hidden Meadow, before returning to Spylaw by the old railway track that is now a cycle route. Afterwards we met with some other Nats for our traditional post-Christmas lunch, on this occasion in the Spylaw Tavern.

Today was mild, dry and sunny, which may be why Sarah-Louise found a hawthorn shieldbug *Acanthosoma haemorrhoidale* on the mossy wall above the river in Colinton Dell. We had already seen hundreds of hibernating orange ladybirds *Halyzia sedecimguttata* on the railings below Colinton Church, plus single individuals of the 7 and 10-spot ladybirds - *Coccinella 7-punctata* and *Adalia 10-punctata* but the shieldbug must have emerged from its winter sleep due to the unseasonal weather.

While Sarah-Louise Davies took most of the group to look at some old mill buildings near Kate's Mill, Neville Crowther pointed out a female goosander *Mergus merganser*. We had already seen dippers *Cinclus cinclus* and later saw a heron *Ardea cinerea*. Only Vladimir Krivtsov managed to find a kingfisher *Alcedo atthis*, his first in Scotland, but the



escaped parakeet that had been reported in the area did not appear today. Other items of natural history interest were a sparrowhawk *Accipiter nisus* that scattered wood-pigeons *Columba palumbus* roosting near the Redhall hornbeams *Carpinus betulus*, and another large overwintering orange ladybird population clustered on fence-posts below the Colinton tunnel. Ian had remarked on the many hart's-tongue ferns *Asplenium scolopendrium* in Colinton Dell, and Vladimir spent time looking at soft shield ferns *Polystichum setiferum* and a large black spleenwort *Asplenium adiantum-nigrum*, all just beside the Spylaw car park. Finally, a brown trout *Salmo trutta* broke the water surface just after I had bemoaned the apparent absence of fish life in the river. Thanks to Janet for arranging matters with the Spylaw Tavern. We hope she is able to resume organising the Christmas walk and lunch in 2017.

David Adamson

Indoor Meetings

Meetings were held at the Guide Hall, 33 Melville Street, Edinburgh EH3 7JF. During the indoor meetings, microscopes were set up to look at items brought in by members, often mosses. Many thanks to Vladimir Kristov and David Adamson for providing their expertise throughout the year.

Seaweeds of the Forth: early history, flora comparison, man's activities and ecology

20th January 2016

Speaker:- Martin Wilkinson, Emeritus Professor, Heriot-Watt University

Martin worked at Heriot-Watt University from 1974 to 2010. The talk covered the topic of seaweeds and it reminded me of many marine biology lessons at university. Seaweeds are a group of algae separated into the three types, red algae *Rhodophyta*, brown algae *Phaeophyta* and green algae *Chlorophyta*. They are classified by their pigments, not necessarily their colour as some reds can look brown. Some incredible microscopic photos of seaweeds were shown during the talk.

Martin discussed the history of studying seaweeds. They do photosynthesis, particularly green algae which contain chloroplasts and chlorophyll, but are protists not plants, a classification which was debated over many years. He discussed the variety of seaweeds, from cyanobacteria which are very simple, to *Laminaria* spp. brown seaweeds that make up the kelp forests off the coast of Scotland. There are roughly 10,000 species of seaweeds in the world of which the largest is giant kelp *Macrocystis pyrifera*. Martin spoke of some that can grow more than 1 metre a week and with such a large size (growing up to 45 metres long), this seaweed is harvested in California.

Seaweeds interact with the environment in many ways. Martin talked of epiphytic seaweeds that live on another seaweed species. He also spoke of species encrusting onto limpets, endolithic species which bore into rock and endocoic species which bore into calcareous animals to survive. An example given of endocoic species was a *Codium* species which will live in mollusc shells and some species will even live in hydroids. From the talk, the incredible adaptations of seaweed were evident including *Enteromorpha* species which are adapted to living on a chalk shore and *Fucus distichus* in Orkney which thrives due to dealing with a lot of exposure to large waves.

Martin moved onto focusing on seaweeds on a shoreline and where different species are found. Many people walking along a beach may just see a covering of seaweeds across rocks and sand, but this part of the talk delved into zonation as species change as environmental conditions change on a shoreline, moving from species constantly submerged to those rarely submerged by sea water. Many areas were shown around Scotland, from the Borders up to Orkney. The talk mentioned Pettico Wick near St Abbs where the top of kelp can be seen at a low spring tide. One intriguing comparison was to Bay of Skaill in Orkney where the shore is exposed and there are very few seaweed species. Martin talked of the opposite end of the extreme where sheltered shores are covered with seaweed but dominated by one species and then mentioned intermediate shores which have a mosaic of seaweed species.

The talk finished with a focus on seaweeds in the Forth highlighting sewage and pollution outflow into different parts of the estuary. There are roughly 99 species found around the Forth mouth at Dunbar and North Berwick, however, upstream, this number decreases. Martin talked of two

particular areas where there are significantly lower numbers, at Edinburgh due to sewage, and from Kirkcaldy to Leven due to dumping from mining. Surveys from 1880 were mentioned which saw an area such as Joppa being praised for abundance of seaweed whereas now it is dominated by mussels and barnacles. The change over the last 100 years, was explained, in a number of areas including Granton, where despite improving water quality there was not an increase in seaweeds. Finally, the Water Framework Directive was mentioned which has led to seaweeds being indicator species for water quality. It was a very interesting talk and good to hear a topic on an aquatic taxa and ecosystem.

Ptolemy McKinnon

Track a Tree - recording the progress of spring in the woods

17th February 2016

Speaker: Christine Tansey

Track a Tree has been developed by Christine, a PhD student at Edinburgh University supported by the Woodland Trust. It is a citizen ecology scheme that records the spring phenology of individual woodland trees and the flowering plants that make up the ground flora beneath them. It extends the seasonal observations of Nature's Calendar (naturescalendar.org.uk). Track a Tree goes beyond earlier schemes as it follows individual trees. This means we can find out how much trees are able to adjust their phenology from year to year as climate conditions vary. It records a range of dates when different species reach budburst or come into leaf, rather than just the very first events that happen in woodlands. Knowing how these dates vary within a location is important for understanding interactions between species. By observing the flowering of plants beneath individual trees, we can see whether these ground flora species are able to shift their phenology to keep up with changes in the timing of shading due to climate change. Through recording the phenology of UK woodland communities, we can find out how seasonal timing varies across some of our most important habitats.

The Track a Tree project has a website trackatree.bio.ed.ac.uk. You can follow on Twitter @TrackATree, or visit on the Track a Tree Facebook page. This use of modern technology allows citizen science to handle large amounts of information from a number of observers and analyse it. Citizen science isn't new in this country. One of the first set of records was started by Robert Marsham in 1736 on his Norfolk estate which unfortunately stopped in 1947 due to criticism by short-sighted professional scientists! Another pioneer was the Royal Meteorological Society which from 1875 asked its members to record flowering times. These older data sets have been incorporated in the modern analysis as they extend the time frame back so much.

The results so far show that earlier flowering plants such as wood anemone *Anemone nemorosa* and lesser celandine *Ficaria verna* respond to temperature changes more than the later flowering types such as bluebell/wild hyacinth *Hyacinthoides non-scripta* which respond more to photoperiodism i.e. light levels. This raises the possibility of mismatches eg tits whose eggs normally hatch when caterpillar numbers are at their peak may be disadvantaged if these events move out of synch. Modelling of the data suggests that 'shuffling' may occur in future, for example birch *Betula* currently leafs out before oak *Quercus*, but this may be reversed as the two trees' response times to change vary. For more on this most worthwhile project have a look at the websites.

Stan de Prato

Adventures in Lichenology

16th March 2016

Speaker: Anthony Taylor

From a Master's degree in plant taxonomy, Anthony embarked on a journey into practical field ecology via the SWT's Ecological Survey Skills programme, where his interest in lichenology developed. His illustrated talk took us via a lichen identification course at Kindrogan Field Centre, with funding from ENHS, to field excursions to Handa, Islay, Argyll, Ailsa Craig, Cairngorm National Park and various other areas of Scotland.

Anthony illustrated with humour the often random way in which significant lichenological discoveries are made and was somewhat dismissive of his own significant contributions. ENHS funds used to assist the development of young ecologists like Anthony is money well spent. Peter Leach

Anthony's report on the lichen identification course at Kindrogan which he attended in April 2014 is on page 10 of Journal 2015: A record of activities in 2014

Members' Night

13th April 2016

Our president was ill and Wilma Harper kindly guided us through the four members talks. The evening started with David Adamson letting us hear 'On hearing the first cuckoo in spring'. This is a piece of music by Frederick Delius composed in 1912. He then introduced Frederick Sladen, the author of 'The humble-bee, its life-history and how to domesticate it', published in 1912. The link was that there are 'cuckoo' bumblebees that parasitise bumblebee nests. David finished the talk highlighting the recent arrival of *Bombus norvegica*, a cuckoo which has followed the, newly arrived to Britain, tree bumblebee *B. hypnorum*.

Leading up to the break Ptolemy, wearing an Isle of May t-shirt, talked about 'A week on the Isle of May'. The wildlife management is overseen by SNH and CEH, and the SOC holds a Young Birders week on the island. Ptolemy outlined the activities he took part in during the week. The activities were mainly learning about the skills needed to monitor coastal birds, of which he seemed to have a soft spot for puffins *Fratercula arctica*. The week included looking at all groups of organisms, some of which are introduced.

After the break Stan da Prato narrated a selection of seal photographs showing 'Seal Success Story' about seals in the Firth of Forth. The seals were mainly on the Isles of May, Inchkeith and Craigmyle and at Fast Castle. Stan pointed out that 40% of the world's grey seals *Halichoerus grypus* reside around Scotland and that their requirements do not include pretty surroundings. Finally, Lynn Youngs showed a series of short videos from her prolonged holiday in Australia. There were good views of many birds and some other animals. The final view was Sydney Opera House from a boat, a well known sight but nonetheless dramatic. Lynn's favourite bird of the trip was the letter-winged kite *Elanus scriptus* which shows a clear letter W when it flies.

David brought along a microscope and some mosses. It was a good opportunity to say farewell to some members moving on to new adventures.

Sarah Adamson

Useful Scottish Plants

14th September 2016

Speaker: Max Coleman, Science Communicator RBGE

Max's talk was focused on current uses of a range of Scottish plants, as explored in the 'Edible Garden Project' at RBGE. A patch of rhubarb has been planted, behind the rebuilt Botanics Cottage, which has a long association with Edinburgh as both a food and a medicinal remedy. The mention of rhubarb often provokes interest and the citing of anecdotal tales about its popularity with children. A recent trial growing various black nightshade species has caused concern about the wisdom of eating the leaves of a nightshade plant; apparently it is commonplace in the Indian subcontinent where they are cooked like spinach. It is also reported that people from other cultures eat cooked potato leaves. He entertained members with accounts of unusual food possibilities and provided some samples for an appreciative but somewhat reluctant audience.

Peter Leach and Sarah Adamson

Water beetles as a way of life

19th October 2016

Speaker: Garth Foster, Coleopteran Conservation Trust

Garth introduced us to the pioneer of aquatic coleoptera recording, David Sharp (1840 to 1922).

After qualifying as a doctor and working briefly in London, Sharp took up the post of medical officer in the Crichton Royal Hospital, Dumfries in 1867.

As his sole patient appears to have been Major William Cunningham, a 'gentleman of weak intellect', it left him plenty of time to indulge his developing interest in water beetles.

Sharp travelled extensively between 1874 and 1908, visiting Japan, Hawaii, New Zealand and South America, as well as frequent and extensive collecting excursions in Scotland. He also published, 'On Aquatic Carnivorous Coleopteran' which described 1511 taxa worldwide.

In the early years of the 20th century, Sharp became acquainted with Frank Balfour-Browne who was born in Dumfries, graduated in botany from Oxford, was called to the bar and returned to university for a zoology degree. Busy enough as this seems, his lifelong interest was in water beetles and he was greatly encouraged by Sharp in his project of 'making a study of the distribution of water beetles throughout the Britannic area' and by 1957 he had taken the British records from 28,000 to 51,000.

Balfour-Browne's life-long dedication to water beetles is recognised in the 'Balfour-Browne Club', which has been in existence since 1976 and includes members from all over the world.

This interesting presentation concluded with a description of a range of diving beetles, scavenging beetles, mud beetles, moss beetles, rove beetles, leaf beetles, ground beetles and weevils, many of which were first recorded by Sharp and Balfour-Browne.

Peter Leach

From Beavers to Zombies

16th November 2016

Speaker: Lindsay McKinley, Wildlife Conservation Advisor NTS

Lindsay gave a talk on the Trust's work and a general overview of wildlife in Scotland. Starting with an introduction to NTS, pictures were shown of many of the sites around Scotland that the Trust owns. The area of the sites make NTS Scotland's 4th largest landowner, and includes seven NNRs and over 400 islands.

The first example of work showed a site near Ben Lawers. Here there is an aim to discover the impact of grazing, having fenced off an area and letting it grow without sheep or deer preventing succession. Lindsay then talked of a similar project at Grey Mare's Tail near Moffat, a site many Nats have visited. Plants such as alpine fox tail *Alpoecurus alpinus* are found there with an increase in numbers of the flower in recent years. With plants, such as greater woodrush *Luzula sylvatica* on the increase and oblong woodsia *Woodsia ilvensis* found there, it is hoped fenced off areas will provide a site for these and other plants to grow. Carrifran is next door, where the Wildwood Project is present. The NTS site cannot be turned into woodland for multiple reasons, but it will certainly be interesting to see how the two compare.

NTS has created many wildflower sites, of which Lindsay showed photos. These included at Hill of Tarvit, St Abb's Head, Branklyn Gardens and Inveresk, where comma butterfly *Polygonia c-album* has now moved. The Pineapple also has a wildflower meadow, but Lindsay discussed other work that has been done there. There is hope that the renovation of a pond area would secure the future for the resident great crested newt *Triturus cristatus*.

Having mentioned the number of islands NTS owns, Lindsay moved briefly on to talking about seabirds on Mingulay. He noted that it is three days of travel to the island, but is well worth it, with good numbers of great skua *Stercorarius skua*, puffins *Fratercula arctica*, kittiwakes *Rissa tridactyla* and other seabirds present. After covering birds, it was time for the Nats to hear about the mammal work the Trust is involved in. From one flighted animal to another, the bat work NTS carries out was mentioned. The bat reserve at Threave where eight species are present was mentioned as well as work with contractors to ensure there is no/limited impact on bats during building developments.

The presentation moved onto the Scottish wildcat *Felis silvestris grampia*. This subspecies, as many will know, is threatened by hybridisation with domestic cats. Lindsay spoke of the neutering work NTS is involved in to try to protect the genetic purity of the 'Highland Tiger'. The threats for another

mammal, the red squirrel *Sciurus vulgaris* were discussed. The protection of the species in Scotland from the expanding range of grey squirrels *Sciurus carolinensis* was likened to the protection areas for people, in the film, World War Z from zombies, hence the title of the talk. The meeting wrapped up with mention of the beaver reintroduction project. At the time of the talk, a decision from the Scottish Government was still to be made, but a week later, Eurasian beavers *Castor fiber* were confirmed as officially back in Scotland. Great news, but too late for Lindsay to announce during his very interesting talk on the wide range of work he and NTS are involved in.

Ptolemy McKinnon

Supermoons, seaweed flies and turnstones



Turnstone

Three supermoons concluded 2016. On 14th November the full moon was at its closest to earth since 1948. Along the East Lothian coast we witnessed the consequence with extra high/low spring tides. Along the highest strand-line seaweeds were abandoned until the next spring tide. After a couple of weeks the rotting seaweed was host to seaweed flies that had matured and were about to create their next generation. The family of flies *Coleopidae* live exclusively on seaweeds and kelps, and have a life cycle of 11/12 days. As well as the flies there were myriads of pupa cases looking like large brown rice grains in heaps around the seaweed and the dry empty pupa cases skittering away across the sand. This was a bumper harvest for the turnstones *Arenaria interpres* to devour as they ran around the seaweed in their busy manner.

Sarah Adamson

Forth Island Seabird Counts 2016

We never quite know what to expect at the start of the season. This year the St Abb's Head NNR had their first gannets attempting to breed. Four pairs were seen in May and June and one of these pairs started building a nest and were seen mating, however they were not successful. Still, this can be recorded as one apparently occupied nest (AON).

Fulmar: The biggest numerical differences were on Inchkeith (+23 AOS) and Inchgarvie (-75 AOS) though the total for all islands is down (-5 AOS or -4%) when compared to last year. However this year's count is up by 3% compared to the average for the previous five years.

Cormorant: Counting this species on The Lamb is always tricky as many nests can be hidden and this year's low count (-24%) might be a reflection of this. Looking at the total for all islands the numbers are up slightly (+3 AON or +1%) this year.

Shag: Breeding numbers are down this year (-6%) and this may be a result of the winter storms.

Greater black-backed gull: This species continues to do extremely well and numbers are up 36% compared to last year, +81% compared to the average for the previous five years and +118% compared to the previous ten years.

Lesser black-backed gull: On the islands where this species is counted numbers are generally up this year ie +53%. This excludes Inchcolm where numbers are roughly half what they were in 2015.

Herring gull: These gulls have faired better than the LBB gulls on Inchcolm and showed an increase of 27% there while the total for all islands increased by 22% compared to last year.

Kittiwake: Apart from Inchkeith, the total of all islands is showing a reduction in numbers this year (-13%). However this is up 11% on the average for the previous five years and only 4 AON less than the 10 year average.

Terns: While common and arctic numbers have increased on Isle of May the good news is that sandwich terns have returned there after an absence of ten years.

Razorbill: Although the comparisons to last year show large changes for Lamb (+78%) and Bass Rock (-37%), these islands are both counted from the boat so these differences may be due to sea conditions on the day. Overall, the total for all islands is up 8% on last year, up 17% compared to the average for the last five years and up 23% on the 10 year average.

Guillemot: Isle of May is the only island which is showing an increase (+1440 birds or +7%) which

is balancing out the other islands resulting in an overall total that is up 1% compared to last year. This total, however, shows an increase of approx. 29% compared to both the five and 10 year averages.

Puffin: A burrow count was carried out on Craigeleith and the number of AOB was found to be down by 25%. Based on the observations on Isle of May it was felt that puffins were late in returning this year so this count was probably carried out too early. The only other island where this species was counted was Fidra where numbers are up by 2%.

Summary of Seabird Counts on the Islands in the Firth of Forth

2016	Bass Rock	Craig-leith	Lamb	Fidra	Inch-keith	Carr Craig	Inch-colm	Hay-stack	Inch-mickery Cow & Calves	Inch Garvie / Forth Bridge	Long Craig	May Isle	Total
Fulmar (AOS)	c43	133	9	160	241	0	246	0	33	196	0	309	1,370
Cormorant (AON)	0	c40+	42+	0	128	85	0	0	0	0	0	0	295
Shag (AON)	c22	139	43	168	222	11	26+	0	67	0	0	349	1,047
Gannet (AON)	x	0	0	0	0	0	0	0	0	0	0	0	0
Eider (AON)	x	111+	x	35+	x	x	x	x	43+	39	x	1,128	1,356
Great B-b Gull (AOT)	0	51	5	6-7	13	1	6	1	c6	3	0	72	164
Lesser B-b Gull (AON)	x	138	3	206	1213	9	831	14	177	23	0	1,924	4,538
Herring Gull (AON)	x	1,187	90	1,127	2,504	47	633	18	479	281	0	3,799	10,165
Kittiwake (AON)	c325	468	101	259	343	0	48	0	0	0	0	2,912	4456
Common Tern (AON)	0	0	0	0	0	0	0	0	0	x	19	19+	
Arctic Tern (AON)	0	0	0	0	0	0	0	0	0	0	0	527	527
Roseate Tern (AON)													0
Sandwich Tern (AON)	0	0	0	0	0	0	0	0	0	0	0	21	21
Razorbill (AOS)	c91 (c140 IND)	186 (282 IND)	82 (154 IND)	122 (189 IND)	96 (140 IND)	0	7 (29 IND)	0	0	0	0	c3,570 (5117 IND)	4154 (6051 IND)
Guillemot (birds on cliffs)	c2,230	c2,568	3,070	464	188	0	0	0	0	0	0	23,038 (15,132 pr)	31,558
Puffin (birds unless otherwise stated)	2+ b	4,125 AOB	x	1,050 AOB	549 b on sea	0	20+ b on sea	0	12 b on sea	0	0	x	5758

AOB/AON/AOS/AOT=Apparently occupied burrows/nests/sites/territories; x=birds present but not counted; 0=none breeding; c=circa; mixed=two species (eg Herring and LBB Gulls) counted together; b=birds

With thanks to the Forth Seabird Group and SNH for allowing the use of their data.
Bill Bruce

